

# 2022-23

KCTCS | CATALOG

COLLEGE FOR THE  
REAL WORLD





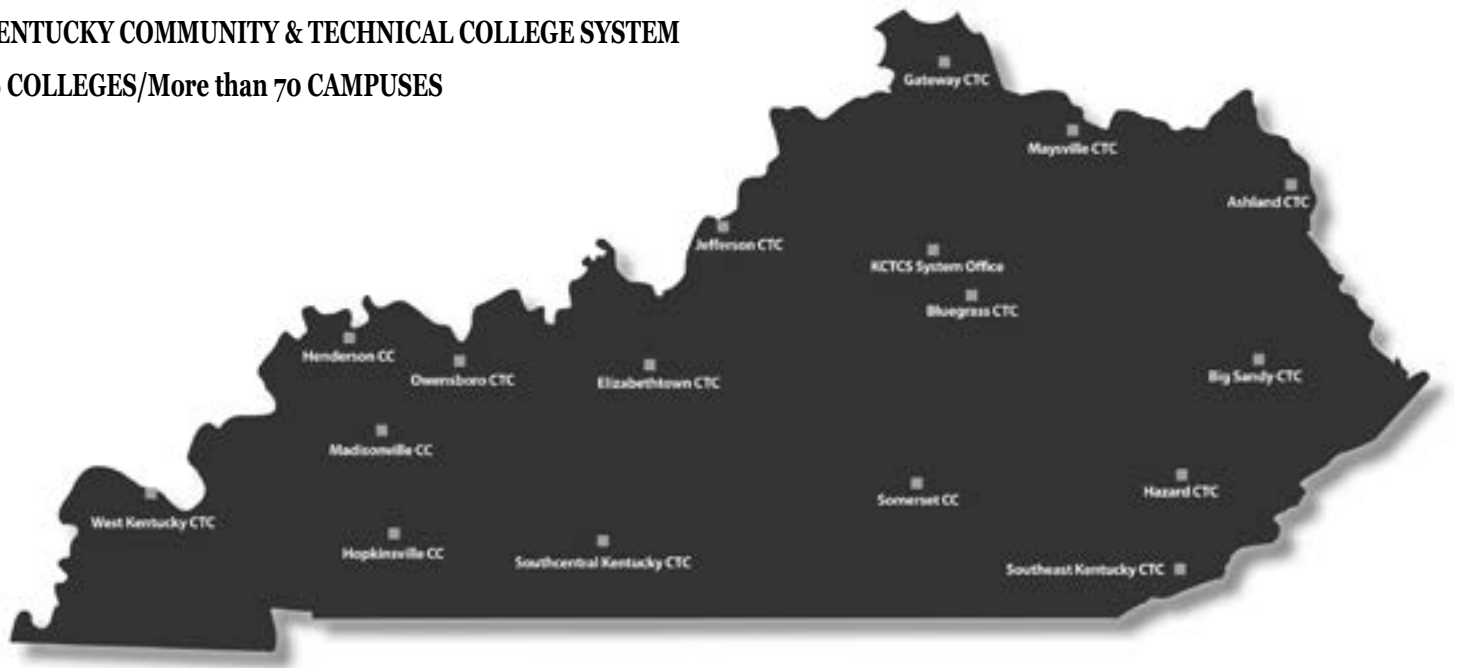


# KENTUCKY

COMMUNITY & TECHNICAL  
COLLEGE SYSTEM

KENTUCKY COMMUNITY & TECHNICAL COLLEGE SYSTEM

16 COLLEGES/More than 70 CAMPUSES



## Kentucky Community and Technical College System

300 North Main Street  
Versailles, KY 40383  
877-KCTCS-4U (toll-free)  
877-528-2748  
859-256-3100

### KCTCS COLLEGES

#### Ashland Community and Technical College

ashland.kctcs.edu  
800-928-4256 (toll-free)

#### Big Sandy Community and Technical College

bigsandy.kctcs.edu  
888-641-4132 (toll-free)

#### Bluegrass Community and Technical College

bluegrass.kctcs.edu  
855-246-2477 (toll-free)

#### Elizabethtown Community and Technical College

elizabethtown.kctcs.edu  
270-769-2371

#### Gateway Community and Technical College

gateway.kctcs.edu  
855-346-4282 (toll-free)

#### Hazard Community and Technical College

hazard.kctcs.edu  
800-246-7521 (toll-free)

#### Henderson Community College

henderson.kctcs.edu  
800-696-9958 (toll-free)

#### Hopkinsville Community College

hopkinsville.kctcs.edu  
270-707-3700

#### Jefferson Community and Technical College

jefferson.kctcs.edu  
502-213-5333

#### Madisonville Community College

madisonville.kctcs.edu  
270-821-2250

#### Maysville Community and Technical College

maysville.kctcs.edu  
606-759-7141

#### Owensboro Community and Technical College

owensboro.kctcs.edu  
866-755-6282 (toll-free)

#### Somerset Community College

somerset.kctcs.edu  
877-629-9722 (toll-free)

#### Southcentral Kentucky Community and Technical College

southcentral.kctcs.edu  
855-246-2482 (toll-free)

#### Southeast Kentucky Community and Technical College

southeast.kctcs.edu  
888-274-7322 (toll-free)

#### West Kentucky Community and Technical College

westkentucky.kctcs.edu  
855-469-5282 (toll-free)

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The KCTCS Catalog serves as the students' guide to academic programs and services that our colleges provide. Students who enroll in an academic program should fulfill requirements as they exist at the time of such enrollment. If requirements change while the student is enrolled in a program, he/she may fulfill either the new or old requirements.

KCTCS makes every effort to include relevant, timely, and accurate information in the Catalog. However, KCTCS reserves the right to make changes in the calendar, admission policies, expenses, programs, curricula, course descriptions, or any other matters addressed or not addressed in this publication. Prospective students and enrolled students should check with college admission officers and academic advisors to learn of any changes. Also, some updates may be included in the online version of the Catalog. Archived KCTCS catalogs are available online here (<https://kctcs.edu/education-training/course-catalog/>).

# INTRODUCTION

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## Academic Calendar

In order to be responsive to the needs of communities and students, KCTCS institutions offer terms in a variety of lengths from two weeks to 16 weeks. The two primary terms begin in August and January. The colleges offer shorter sessions within these two terms, allowing students the flexibility to schedule classes to best meet their needs. A variety of sessions from two to eight weeks are also available during the summer months.

All KCTCS colleges follow a common policy for establishing important dates within each session such as deadlines for adding and dropping classes and receiving refunds. Students should contact the Records/Admission office at their local college for the local academic calendar.

The following closings are applicable to all KCTCS institutions:

Date	Event
July 4, 2022	Independence Day
September 5, 2022	Labor Day
November 24, 2022	Thanksgiving Day
November 25, 2022	Day After Thanksgiving
December 19, 2022	Institutional Closing
December 20, 2022	Institutional Closing
December 21, 2022	Institutional Closing
December 22, 2022	Institutional Closing
December 23, 2022	Institutional Closing
December 26, 2022	Institutional Closing
December 27, 2022	Institutional Closing
December 28, 2022	Institutional Closing
December 29, 2022	Institutional Closing
December 30, 2022	Institutional Closing
January 16, 2023	Martin Luther King, Jr. Day
February 20, 2023	President's Day
April 7, 2023	Good Friday (1/2 Day)

May 29, 2023	Memorial Day
June 19, 2023	Juneteenth

## History and Functions of KCTCS

The Kentucky Community and Technical College System (KCTCS) was created by the 1997 Kentucky Postsecondary Education Improvement Act to help improve access to higher education for all Kentuckians.

KCTCS is the largest provider of higher education, workforce training, dual credit classes and online learning in Kentucky.

The 16 colleges of KCTCS have more than 70 campuses strategically located across the Commonwealth within a 30-minute drive of 95 percent of all Kentuckians.

Students can earn three types of credentials – certificates, diplomas and associate degrees including: associate in arts, associate in science, associate in fine arts, and associate in applied science. Since our inception, we have increased the number of credentials awarded by nearly 500 percent. KCTCS is number one nationally in the number of credentials awarded based on population.

Our programs target Kentucky's high growth industry sectors such as healthcare, manufacturing, energy, IT/business and transportation/logistics. Some programs in these fields can be completed in four months or less. We collaborate with businesses throughout the state to align our programs with their needs so our students can step out of college and into a job.

Through our business partnerships and registered apprenticeships we provide students with the skills required today and to help industries and individuals develop the capabilities they will need tomorrow. Since 2000, our Workforce Solutions team has served three million program participants.

Last year, KCTCS trained and educated:

- Nearly 93,000 credit-seeking students.
- 94 percent of skilled trades workers.
- 87 percent of all associate degrees in nursing and allied health.
- 62 percent of the state's total nursing and allied health credentials.

KCTCS colleges offer a wide range of student services. The majority of our students receive federal financial aid and a variety of need and merit-based scholarships. KCTCS colleges are also the best value in postsecondary education in Kentucky, with the lowest tuition in the Commonwealth. Students pay less than half the cost of the most of the state's public four-year universities.

Each KCTCS college is accredited by the Southern Association of Colleges and Schools and Commission on Colleges of the (SACSCOC).

To learn more about KCTCS, visit ([kctcs.edu](https://kctcs.edu) (<https://kctcs.edu>)).



## KCTCS Leadership

### KCTCS Board of Regents

Ms. Lisa V. Desmarais, Chair  
Mr. James Lee Stevens, Vice Chair  
Dr. Wynetta J. Fletcher, Secretary  
Mr. Russell Cox  
Ms. Karen A. Finan  
Ms. Brooke K. Gallagher  
Mr. Christopher J. Girdler  
Ms. Kimberly N. Greene  
Mr. Keith E. Hamilton  
Mr. Joseph Heerdink  
Dr. Patsy Jackson  
Mr. Barry K. Martin  
Ms. Alexandria Shouse  
Ms. Brianna S. Whitten

### President

Dr. Paul B. Czarapata

### President's Cabinet

Ms. Pamela M. Duncan, Esq.  
Ms. Mary H. Hemlepp  
Dr. Christopher Howes  
Ms. Beverly Malloy  
Ms. Hannah Rivera, Esq.  
Ms. Jessie Lee Schook  
Dr. Kristin Williams

## College Leadership

### Ashland Community and Technical College

Dr. Larry Ferguson  
President/CEO

### Big Sandy Community and Technical College

Dr. Telly Sellars  
Interim President/CEO

### Bluegrass Community and Technical College

Dr. Koffi Akakpo  
President/CEO

### Elizabethtown Community and Technical College

Dr. Juston C. Pate  
President/CEO

### Gateway Community and Technical College

Dr. Fernando Figueroa  
President/CEO

### Hazard Community and Technical College

Dr. Jennifer Lindon  
President/CEO

### Henderson Community College

Dr. Jason Warren  
President/CEO

### Hopkinsville Community College

Dr. Alissa Young  
President/CEO

### Jefferson Community and Technical College

Dr. Ty Handy  
President/CEO

### Madisonville Community College

Dr. Cynthia Kelley  
President/CEO

### Maysville Community and Technical College

Dr. Laura McCullough  
President/CEO

### Owensboro Community and Technical College

Dr. Scott Williams  
President/CEO

### Somerset Community College

Dr. Carey W. Castle  
President/CEO

### Southcentral Kentucky Community and Technical College

Dr. Phillip W. Neal  
President/CEO

### Southeast Kentucky Community and Technical College

Dr. Vic Adams  
President/CEO

### West Kentucky Community and Technical College

Dr. Anton Reece  
President/CEO

## Mission Statement

### Kentucky Community and Technical College System

#### KCTCS Mission Statement:

The mission of the Kentucky Community and Technical College System is to enhance the quality of life and economic vitality of the Commonwealth by serving as the primary provider of:

- College and Career Readiness
- Transfer Education
- Workforce Education and Employment Training

#### KCTCS Vision:

KCTCS will be the primary provider of skilled talent to grow Kentucky.

#### KCTCS Values:

- Quality and excellence
- Integrity
- Student-centered
- Openness, accountability, and transparency

- Continuous improvement
- Timely and responsive
- Flexibility and innovation
- Inclusion, equity, respect, and global diversity

# Ashland Community and Technical College

## Mission Statement/Status of Accreditation

Educate with Excellence. Serve with purpose. Succeed for life.

Ashland Community and Technical College strengthens our communities by providing certificate, diploma, and associate degree programs that prepare students for employment or transfer to baccalaureate programs as well as enhances job skills through workforce training.

Ashland Community and Technical College, a member of the Kentucky Community and Technical College System, is a public associate degree granting institution serving Northeast Kentucky.

Ashland Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Ashland Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C, D, A)
- Advanced Integrated Technology (C, A)
- Air Conditioning Technology (C, D)
- Appalachian Studies (C)
- Applied Process Technologies (C, A)
- Automotive Technology (C, D)
- Business Administration (C, D, A)
- Business Communications (C)
- Business Foundations (C)
- Certified Medical Technician (C)
- Computer Aided Drafting and Design (C, D)
- Computer and Information Technologies (C, D)
- Computerized Manufacturing and Machining (C, D)
- Cosmetology (C, D)
- Criminal Justice (A, C)
- Culinary Arts (C, D, A)
- Diesel Technology (C, D)
- Digital Printing Technology (C)
- Electrical Technology (C, D)
- Emergency Medical Services – Paramedic (C)

- Emergency Medical Technician (C)
- Energy Technologies (C)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Science Technology (A)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Marine Technology (C)
- Medical Assisting (C)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C)
- Nursing (A)
- Nursing Assistant – Advanced (C)
- Plumbing Technology (C)
- Practical Nursing (C, D)
- Respiratory Care (A)
- Surgical Technology (D, A)
- Truck Driver Training (C)
- Welding Technology (C, D)

## Contact Information

### Ashland Community and Technical College

1400 College Drive

Ashland, KY 41101

(606) 326-2000, (800) 928-4256

[ashland.kctcs.edu](http://ashland.kctcs.edu) (<http://ashland.kctcs.edu>)

- College Drive Campus (CDC)
- Roberts Drive Campus (RDC)
- Technology Drive Campus (TDC)

## General Information

Office	Phone number
Admissions	(606) 326-2413
Advising Center	(606) 326-2040
Adult Education and Literacy	(606) 326-2457
Business Office	(606) 326-2041
Center for Community, Workforce and Economic Development	(606) 326-2129
Community and Technical College Foundation	(606) 326-2071
Disability Services	(606) 326-2051
Financial Aid	(606) 326-2198
Human Resources	(606) 326-2044
Library	(606) 326-2169
Public Relations	(606) 326-2103
Records	(606) 326-2413
Veterans Affairs	(606) 326-2275
Website (webmaster)	(606) 326-2090

## Administration

Position	Name	Phone Number
President	Dr. Larry Ferguson	(606) 326-2043
Dean of Academic Affairs/CAO	Dr. Todd Brand	(606) 326-2163
Dean of Business Affairs	Karen Blevins	(606) 326-2063
Director of Advancement	Brooke Seator	(606) 326-2092
Dean of Institutional Planning, Research and Effectiveness	Steve Flouhouse	(606) 326-2055
Dean of Student Success and Enrollment Services	Steven Woodburn	(606) 326-2077
Director of Technology Solutions	Jim Fox	(606) 326-2145
Registrar/Director of Admissions	Robin Lewis	(606) 326-2423
Director of Financial Aid	Adam Chapman	(606) 326-2114
Senior Fellow of Cultural Diversity	Kevin Harrison	(606) 326-2260

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Alley, Alan C, Professor, DC, Palmer College of Chiropractic, 1998  
 Bailey, Danny G, Professor, MS, University of Kentucky, 1971  
 Blair, Kathy L, Associate Professor, MSN, University of Phoenix, 2012  
 Boggs, Christopher J, Professor, AAS, Institute of Electronics Technology, 1992  
 Bond, James Michael, Instructor, AAS, Ashland Community and Technical College, 2015  
 Bowman, Curtis D, Professor, Certification, Collins Career Center, 1979  
 Bradley, John M, Professor, Certification, National Institute for Automotive Service Excellence, 1999  
 Bradley, Peggy L, Professor, BS, Morehead State University, 1979  
 Brown, Jesse, Instructor, Certificate, Eastside Center for Applied Technology, 1995  
 Brown, Sara A, Professor, EdD, Marshall University 2021  
 Cantrell, Heather, Instructor, AAS, Ashland Community and Technical College, 2008  
 Carroll, Brigitte Lee, Assistant Professor, MSN, Northern Kentucky University, 2020  
 Cassidy, Jeffrey M, Assistant Professor, AAS, Ashland Community and Technical College, 2013  
 Chambers, Jeffrey, Instructor, BSN, Ohio University, 2017  
 Childress, David C, Professor, MA, MS, Morehead State University, 2011  
 Collins, Anne Marie, Assistant Professor, Certification, Bellefonte Beauty College, 2005  
 Conley, Richard R, Professor, MS, University of Kentucky, 1973  
 Cullum, Randolph, Professor, MA, Marshall University, 1981  
 Davis, Virgil K, Professor, MA, Morehead State University, 1986  
 Edwards, Kathryn Hare Tucci, Professor, MA, Marshall University, 1991  
 Flath, Mary C, Professor, PhD, Medical University of South Carolina, 1991  
 Flouhouse, Steven D, Professor, MS, Marshall University, 1991  
 Fosterwelsh, Wendy, Professor, MFA, Georgia Southern University, 2004

Frye, Bettie E, Professor/Librarian I, MLS, University of South Carolina, 1989

Green, Melissa, Instructor, BSN, Western Governors University, 2021  
 Griffith, Lisa L, Instructor, MSN, Western Governors University, 2021  
 Hall, James C, Associate Professor, MA, University of Louisville, 2014  
 Hankins, Shannon, Assistant Professor, PhD Ohio University 2015  
 Henderson, Lisa Marie, Assistant Professor, PhD, University of Phoenix, 2013  
 Holsinger, Shayne, Instructor, BS, Morehead State University, 1985  
 Howard, Warren H, Professor, MA, Morehead State University, 2003  
 Howerton, Deena, Associate Professor, BSN Bellarmine College 2002  
 Joy, Jonathan, Associate Professor, MA, Marshall University, 2004  
 Justice, Debra, Professor, MA, Marshall University, 1997  
 Klinepeter, Pamela, Professor, MLS, University of Kentucky, 2005  
 Kumar, Ramamurthy Chandra, Professor, MS, Florida Institute of Technology, 1986  
 Langford, Robert L, Instructor, MA, Morehead State University, 2014  
 Martin, Frances, Professor, AME, Morehead State University, 1994  
 McCarty, Shannon, Professor, Certificate, Collins Career Center, 1990  
 McGinnis, Vicki, Associate Professor, MA University of Kentucky, 1994  
 Meadows, Kayla, Assistant Professor, MS, Eastern Kentucky University, 2015  
 Mengistu, Aschalew, Professor, PhD, University of Wales College of Medicine, 2002  
 Merritt, Richard P, Associate Professor, MA, Marshall University, 2011  
 Mohebbian, Hossein, Professor, MA, Marshall University, 1983  
 Pancake, Danny, Associate Professor, Certificate, Machine Operator, Jackson Manpower, 1975  
 Polley, Michael A, Instructor, MS, Morehead State University, 1999  
 Potter, Dianne L, Instructor, MSN, Walden University, 2021  
 Queen, Dale, Instructor, MA, Morehead State University, 2002  
 Ratliff, Terri Lynn, Associate Professor, BSN, Marshall University, 1993  
 Raybourn, Lori, Instructor, AAS, Ashland Community College, 1997  
 Riggs, Mark, Professor, MS, Mississippi State University, 2000  
 Riggs, Sonya, Instructor, ADN, University of Rio Grande, 2017  
 Robinson, Natalie, Associate Professor, MSN, Bellarmine University, 2007  
 Shelton, Cynthia, Professor, AME, Marshall University, 1992  
 Skidmore, Ashley, Associate Professor, MA, University of Kentucky, 2006  
 Smith, Mark S, Associate Professor, BS, Morehead State University, 1999  
 Smith, Mourine K, Assistant Professor, BA, Morehead State University, 2021  
 Tackett, Michael B, Associate Professor, AS, Ashland Community and Technical College, 2008  
 Thompson, Janet C, Assistant Professor, MS, Marshall University, 2013  
 Tussey, Laura L, Professor, MA, Marshall University, 2000  
 Wallace-Vernatter, Susan Y, Associate Professor, BS, Bellevue University, 2008  
 Walters, William Jeffrey, Instructor, BA, Morehead State, 1985  
 Wheeler, Thomas, Assistant Professor, Certification, Ashland State Vocational, 1986

# Big Sandy Community and Technical College

## Mission Statement/Status of Accreditation

Big Sandy Community and Technical College provides accessible quality educational opportunities for student success, promotes economic growth, and enhances the quality of life of its constituents.

Big Sandy Community and Technical College, a member of the Kentucky Community & Technical College System, is a public associate degree granting institution serving Eastern Kentucky.

Big Sandy Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Big Sandy Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C, D)
- Agriculture (C)
- Air Conditioning Technology (C, D, A)
- Applied Engineering Technology (C)
- Auto Body/Collision Repair Technology (C, D)
- Automotive Technology (C, A)
- Broadband Technology (C, A)
- Business Administration (C, D, A)
- Business Communications (C)
- Business Foundations (C)
- Civil Engineering Technology (C, D, A)
- Community Health Worker (C)
- Computer Aided Drafting and Design (C, D, A)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Construction Technology (C, D)
- Criminal Justice (C, A)
- Culinary Arts (C, D)
- Cybersecurity (C, A)
- Dental Assisting and Dental Hygiene (C, D, A)
- Diesel Technology (C, D)
- Digital Printing Technology (C)

- Education (C, A)
- Electrical Technology (C, D, A)
- Emergency Medical Services - Paramedic (C)
- Emergency Medical Technician (C)
- Energy Technologies (C)
- Engineering and Electronics Technology (C, D, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Science Technology (A)
- Human Services (C, A)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C)
- Manufacturing Engineering Technology (C)
- Masonry (C, D)
- Medical Information Technology (C, D, A)
- Mining Technology (C, A)
- Nursing (A)
- Nursing – Academic/Career Mobility (A,D)
- Nursing Assistant –Advanced (C)
- Physical Therapist Assistant (A)
- Practical Nursing (C, D)
- Plumbing (C)
- Respiratory Care (C, A)
- Surgical Technology (D, A)
- Truck Driver Training (C)
- Visual Communication
  - Design and Technology (C, D, A)
  - Multimedia (C)
- Welding Technology (C, D, A)

## Contact Information

### Prestonsburg Campus

1 Bert T. Combs Drive  
Prestonsburg, KY 41653  
(606) 886-3863  
[big sandy.kctcs.edu](http://big sandy.kctcs.edu) (<http://big sandy.kctcs.edu>)

### Pikeville Campus

120 South Riverfill Drive  
Pikeville, KY 41501  
(606) 218-2060  
[big sandy.kctcs.edu](http://big sandy.kctcs.edu) (<http://big sandy.kctcs.edu>)

### Mayo Campus

513 Third Street  
Paintsville, KY 41240  
(606) 789-5321  
[big sandy.kctcs.edu](http://big sandy.kctcs.edu) (<http://big sandy.kctcs.edu>)

### Hager Hill Campus

150 Industrial Park Road  
Hager Hill, KY 41222  
(606) 789-5321  
[big sandy.kctcs.edu](http://big sandy.kctcs.edu) (<http://big sandy.kctcs.edu>)

## General Information

606-886-3863 or 1-888-641-4132



**(Toll free – outside of Floyd, Johnson & Pike counties)**

Office	Phone number
Academic Center for Excellence	(606) 889-4834
Academic Services (Program Information)	(606) 889-4794
Admissions & Records Office	(606) 886-3863 Option 2
Adult Education	(606) 788-2887
Advising Center	(606) 889-4775
Business Services	1-855-GO-BSCTC (1-855-462-7282)
Career Education & Workforce Development	(606) 218-1276
Disability Services	(606) 886-7391
Financial Aid	1-855-GO-BSCTC (1-855-462-7282)
Library	(606) 889-4834
President's Office	(606) 886-7332
Public Relations	(606) 889-4734
Registrar	(606) 889-4827
Security	(606) 886-7335
Student Services	(606) 886-7364
Website	(606) 886-7395

## Administration

Position	Name	Phone Number
Interim President	Dr. Telly Sellars	(606) 886-7332
Provost/Chief Academic Officer	Dr. Denise King	(606) 889-4794
Chief Financial Officer	Michelle Meek	(606) 886-7336
Chief Human Resources Officer	Jackie B. Cecil	(606) 889-4724
Chief Student Affairs Officer	Jimmy Wright	(606) 886-7347
Dean of Strategic Initiatives	Myra Elliott	(606) 889- 471 5
Director of Community Education & Workforce Development	Rachelle Burchett	(606) 788-2863
Director of External Education Programs	Joyce Wilcox	(606) 788-2802
Director of Enrollment Management	John Yancey	(606) 889-4808
Director of East KY Science Ctr and Planetarium	Chrysta Ghent	(606) 889-4809
Director of Financial Aid	Cathy Hurd-Crank	1-855-GO-BSCTC
Director of Grants Development	Connie Estep	(606) 789-4739
Director of Information Technology	Casey Music	(606) 788-2809
Director of Institutional Effectiveness	Denise Atkinson	(606) 886-7342
Director of Library Services	Judy Howell	(606) 889-4750

Director of Performing Arts/Executive Director of the Mountain Arts Center	Joe Campbell	(606) 889-9125
Director of Facilities/ Safety & Security	Randall Haney	(606) 788-2817
Director of Strategic Communications	Greta Slone	(606) 889-4734

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Adam, Kelly J, Professor, MS, Southern Connecticut State University, 1993  
 Allen, Collista, Professor, MSN, University of Phoenix, 2013  
 Bailey, Leslie M, Associate Professor, MA, Morehead State University, 2010  
 Baldrige, Harold, Associate Professor, BS, University of Kentucky, 1968  
 Ball, Tammy, Professor, MSSW, University of Louisville, 1996  
 Bell, Daniel E, Professor, MA, Northern Illinois University, 1986  
 Bennin, Hope E, Professor, MA, University of Wisconsin, 1987  
 Borders, Sharon, Instructor, AAS, Prestonsburg Community College, 1994  
 Briggs, Angela D, Instructor, BS, Western Kentucky University, 2019  
 Brooks, Michael Aaron, Associate Professor, AAS, Big Sandy Community & Technical College, 2017  
 Carroll, Charlene, Associate Professor, MSN, University of Kentucky, 1996  
 Cole, Elizabeth M, Professor, MA, University of Iowa, 1989  
 Compton, Joseph L, Professor, BS, Morehead State University, 2013  
 Conn, Stephania, Associate Professor, MAE, Western Kentucky University, 2016  
 Connors, Kimberly, Instructor, MSN, Walden University, 2017  
 Daniels, Josh K, Instructor, BS, Murray State University, 2005  
 Davis, Brandie L, Assistant Professor, MA, Eastern Kentucky University, 2006  
 Dempsey, Jeremy, Professor, MA, Marshall University, 2005  
 Dickerson, Cindy, Professor, MA, Morehead State University, 2008  
 Durham, Roberta, Associate Professor, BSN, Morehead State University, 2009  
 Elliott, Myra T, Professor, MSN, University of Kentucky, 1993  
 Fields, Carmen, Associate Professor, MA, Morehead State University, 2021  
 Fields, Michelle, Professor, MA, Marshall University, 1995  
 Fitzpatrick, John J, Lecturer, MS, Morehead State University, 2019  
 Gambill, Jessica, Associate Professor, MA, Union College, 2004  
 Hall, Darcey Renea, Instructor, AAS, Big Sandy Community and Technical College, 2019  
 Hackney, Randal Clinton, Associate Professor, MS, Morehead State University, 2007  
 Haney, Randell O, Professor, MS, Eastern Kentucky University, 2018  
 Harless, Irma Kay, Professor, MSN, Northern Kentucky University, 2020  
 Hicks, Jeffrey T, Professor, MA, Morehead State University, 2000  
 Howard, Jerry, Professor, MA, Union College, 2006  
 Howell, Judy K, Professor/Library Services Director, MSLS, University of Kentucky, 1994  
 Husted, Michael Jacob, Instructor, AAS, Big Sandy Community and Technical College, 2019  
 Jackson, Abigail Brooke, Instructor, MSN, Northern Kentucky University, 2021  
 Jackson, Patsy R, Professor, EdD, Eastern Kentucky University, 2019  
 Jacobs, Sabra P, Professor, MA, Bowling Green State University, 1989  
 Keathley, Heath, Associate Professor, AAS, Big Sandy Community & Technical College, 2013

Keaton, Jill E, Assistant Professor, DMD, University of Kentucky, 1990  
 Kinner, DeWayne, Assistant Professor, AAS, Big Sandy Community & Technical College, 2020  
 Lafferty, Natasha F, Instructor, AS, Pikeville College, 1998  
 Lewis, Lori Deanne, Professor, BS, Morehead State University, 2011  
 Linkous, Scotty W, Instructor, Diploma, Big Sandy Community and Technical College, 1994  
 Little, Conda G, Professor, MA, Morehead State University, 2001  
 Madden, Darrell E, Associate Professor, MBA, University of Kentucky, 1980  
 Matijasac, Thomas D, Professor, PhD, Miami University, 1982  
 Maynard Jr, John L, Professor, AAS, Big Sandy Community & Technical College, 2008  
 McClure, Jimmy, Professor, BS, Morehead State University, 2011  
 McGinnis, Leslie Adam, Assistant Professor, AAS, Big Sandy Community & Technical College, 2018  
 McKenzie, Cynthia L, Professor, MBA, Morehead State University, 2001  
 McKenzie, Keithen Douglas, Professor, MS, Morehead State University, 2003  
 McKenzie, Marsha, Professor, MA, Morehead State University, 2012  
 Meade, Leigh-Anna, Instructor, MSN, Walden University, 2018  
 Miller, Kathryn L, Professor, EdD, Morehead State University, 2015  
 Moore, Charles K, Professor, AAS, Big Sandy Community & Technical College, 2007  
 Mullins, Rebecca Ann, Professor, DA, Murray State University, 2019  
 Music, Lisa J, Professor, PhD, University of Louisville, 2013  
 Ousley, Tina Lee, Professor, MS, Morehead State University, 2004  
 Pack, Diana L, Professor, MA, Morehead State University, 2003  
 Pimienta, Gloria, Assistant Professor, PhD, Iowa State University, 2010  
 Ratliff, Teddie, Associate Professor, MSN, Kaplan University, 2012  
 Ray, Pamela, Professor, BS, Western Kentucky University, 2013  
 Redmiles, Lisa P, Assistant Professor, MAE, Eastern Kentucky University, 2011  
 Rosita, Gina, Instructor, MS, Mississippi State University, 2010  
 Saad, Sandra, Professor, MA, University of Kentucky, 1987  
 Saad, Toufic, Professor, MS, University of Kentucky, 1988  
 Shell, James, Instructor, Diploma, Mayo State Vocational Technical School, 1986  
 Skeens, Melissa B, Professor, BA, Morehead State University, 2010  
 Slone, Greta, Professor, MA, Trinity College, 2003  
 Smallwood, Patsy, Assistant Professor, AAS, Big Sandy Community & Technical College, 2016  
 Smith, Dwight P, Professor, MA, Bowling Green State University, 1979  
 Smith, Hubertien, Instructor/Librarian IV, MLIS, University of North Carolina at Greensboro, 2018  
 Smith, Matthew, Associate Professor, MA, East Tennessee State University, 2009  
 Smith, Timothy, Professor, MFA, University of North Carolina at Greensboro, 1993  
 Sofyan, Agus, Professor, PhD, University of Kentucky, 2004  
 Sykes, Pamela J, Professor, MS, Morehead State University, 2002  
 Thacker, Joshua, Professor, MAT, Morehead State University, 2008  
 Tharpe, Byron F, Assistant Professor, MA, University of Tulsa, 1997  
 Thompson, Paula B, Professor, MBE, Morehead State University, 1992  
 Turner, Garrison, Assistant Professor, MS, Ball State University, 2011  
 VanHoose II, Charles W, Professor, AAS, Big Sandy Community & Technical College, 2012  
 Varney, Lesley Dean, Associate Professor, BS, Eastern Kentucky University, 1980  
 Vierheller, Chenzhao, Professor, PhD, Ohio University, 1991  
 Vierheller, Thomas L, Professor, PhD, Ohio University, 1990  
 Wallen, Mary Stepp, Professor, DA, Murray State University, 2021  
 Watts, Randall L, Professor, MS, Eastern Kentucky University, 1991  
 Wells, Mark A, Professor, MA, Eastern Kentucky University, 1997  
 Williams, Robyn J, Instructor/Librarian IV, MS, University of Tennessee, 2000  
 Wright, Randall Keith, Assistant Professor, AAS, Big Sandy Community & Technical College, 2015

# Bluegrass Community and Technical College

## Mission Statement/Status of Accreditation

Bluegrass Community and Technical College (BCTC) transforms the Bluegrass Region—one student, one employer, and one community at a time.

BCTC is a member of the Kentucky Community and Technical College System.

Bluegrass Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Bluegrass Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Transfer Curricula/Art Related

An Associate in Fine Arts (AFA) degree is designed to transfer into a Baccalaureate of Fine Arts (BFA) program at a four-year institution. Individual Associate in Fine Arts (A) degree curricula in each group is noted by an A in parenthesis.

- Filmmaking and Cinematic Arts (C, A)
- Theatre (A)

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D) and Associate in Applied Science (A) degree curricula in each group are noted by C, D and A in parenthesis.

- Administrative Office Technology (C, D, A)
- Air Conditioning Technology (C, D, A)
- Apprenticeship Studies (A)
- Architectural Technology (A)
- Automotive Technology (C, D, A)
- Biotechnology Laboratory Technician (C, A)
- Business Administration (C, A)
- Civil Engineering Technology (C, A)
- Computer Aided Drafting and Design (C, D, A)
- Computer and Information Technologies (C, A)
- Computer Engineering Technology (A)
- Computerized Manufacturing and Machining (C, D, A)
- Construction Technology (C, D, A)
- Cosmetology (C, D)
- Criminal Justice (C, A)

- Cybersecurity (C, A)
- Dental Hygiene (C, A)
- Diagnostic Medical Sonography (A)
- Diesel Technology (C, D, A)
- Education (A)
- Electrical Technology (C, D, A)
- Emergency Medical Services – Paramedic (C, A)
- Energy Technologies (C)
- Engineering and Electronics Technology (C, D, A)
- Environmental Science Technology (A)
- Equine Studies (C, D, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Graphic Design and Library Technologies (C, A)
- Health Science Technology (A)
- Human Services (C, A)
- Industrial Maintenance Technology (C, D, A)
- Integrated Engineering Technology (C, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Manufacturing Engineering Technology (C)
- Medical Assisting (C, D, A)
- Medical Information Technology (C, D, A)
- Nursing (A)
- Orthotics & Prosthetics Technology (A)
- Pharmacy Technology (C, D)
- Radiography (A)
- Respiratory Care (C, A)
- Supply Chain Management (C, A)
- Surgical Technology (A)
- Truck Driver Training (C) *anticipated implementation Spring 2023*
- Welding Technology (C, D, A)

## Contact Information

### Cooper Campus

470 Cooper Drive  
Lexington, KY 40506-0235  
(859) 246-6200

59 Corporate Drive  
Danville, KY 40422-9690  
(859) 239-7030  
[bluegrass.kctcs.edu](http://bluegrass.kctcs.edu) (<http://bluegrass.kctcs.edu>)

### Georgetown Campus

200 Technology Court  
Georgetown, KY 40324  
(859) 239-7030  
[bluegrass.kctcs.edu](http://bluegrass.kctcs.edu) (<http://bluegrass.kctcs.edu>)

### Lawrenceburg Campus

1500 Bypass North US 127  
Lawrenceburg, KY 40342-9465  
(502) 839-8488  
[bluegrass.kctcs.edu](http://bluegrass.kctcs.edu) (<http://bluegrass.kctcs.edu>)

### Leestown Campus

164 Opportunity Way

Lexington, KY 40511-2623  
(859) 246-6200  
bluegrass.kctcs.edu (<http://bluegrass.kctcs.edu>)

#### Newtown Campus

500 Newtown Pike  
Lexington, KY 40508-1207  
(859) 246-6200  
bluegrass.kctcs.edu (<http://bluegrass.kctcs.edu>)

#### Winchester - Clark County Campus

2020 Rolling Hills Lane  
Winchester, KY 40391-6078  
(859) 737-3098  
bluegrass.kctcs.edu (<http://bluegrass.kctcs.edu>)

## Additional Sites

#### Newtown North Campus

Adult Education Building  
690 Newtown Pike  
Lexington, KY 40508-1207  
(859) 246-6611  
BCTCAdultEd.Fayette@kctcs.edu

#### North American Racing Academy

Thoroughbred Training Center  
3380 Paris Pike  
Lexington, KY 40511  
(859) 293-0209

## Phone Numbers

Office	Phone number
General Information	(859) 246-6200
Admission	1-855-246-BGRS (1-855- 246-2477)
Adult Education	(859) 246-6611
Advising and Assessment	(859) 246-6220
Transfer Services	
Disability Support Services	(859) 246-6534
Financial Aid	1-855-246-BGRS (1-855-246-2477)
Human Resources	(859) 246-6445 or (859) 246-6810
Learning Resource Center	(859) 246-6380
Strategic Communications	(859) 246-6507
Records and Registration	1-855-246-BGRS (1-855-246-2477)
Student Billing	1-855-246-BGRS (1-855-246-2477)
Student Success Hub	(859) 246-6702
Workforce Solutions	(859) 246-6666

## Administration

Position	Name
President/CEO	Dr. Koffi C. Akakpo
Provost	Dr. Greg Feeney
Vice President, Advancement and Organizational Development	Mark Manuel
Vice President, Finance and Operations	Lisa G. Bell
Associate Vice President Diversity, Equity, and Inclusion	Dr. Carlous Yates

Associate Vice President, Academics and Workforce Development	Dr. Karen Mayo
Associate Vice President, Dean of Students	Tania Crawford Gross
Associate Vice President, Organizational Development	Deborah Catlett
Associate Vice President, Strategic Communications	Michelle Sjogren
Associate Vice President, Workforce Solutions	Dr. Erin Tipton
Dean, Academics	Dr. Melanie Williamson
Dean, Academics	Dr. Valdis Zeps
Dean, Academic Supports	Dr. Rebecca Simms
Dean, Institutional Planning, Research & Effectiveness	Aaron Gay
Associate Dean, Global Learning	Erin Howard

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Adair, Gerald M, Associate Professor, MA, Florida Atlantic University, 2000  
 Adams, Mary B, Instructor, Cosmetology instructor certificate, Somerset Community College, 2016  
 Adkins, Justin, Assistant Professor, MS, University of Kentucky, 2014  
 Akins, Marilyn, Professor, PhD, Cornell University, 1993  
 Anderson, Stephanie A, Associate Professor, BA, University of Kentucky, 1987  
 Baker, Lucinda, Associate Professor, MA, Ohio University, 1997  
 Baker, Melinda, Associate Professor, DNP, University of Kentucky, 2013  
 Ball, Andrew B, Associate Professor, MA, University of Kentucky, 1988  
 Bell, Mark, Professor, MS University of Baltimore, 1994  
 Benton, Michael D, Associate Professor, MA, Bowling Green State University, 2000  
 Bernard, Dana, Instructor, BSN, RN, Indiana Wesleyan University, 2015  
 Biega, Robert J, Associate Professor, MAEd, Eastern Kentucky University, 1998  
 Binzer, Michael A, Associate Professor, BS, University of Cincinnati, 1987  
 Birch, Timothy E, Professor, MFA, University of Kentucky, 2012  
 Blaydes, Mary, Professor, MS, University of Kentucky, 2002  
 Boes, Don, Associate Professor, MFA, Indiana University, 1985  
 Bond, Sarah, Assistant Professor, MSN, Northern Kentucky University, 2016  
 Bradley, James W, Associate Professor, MS, University of South Carolina, 1999  
 Breitmayer, Beth J, Professor, MEd, University of Minnesota, 1996  
 Brock, Audrey D, Assistant Professor, MS, University of Kentucky, 2007  
 Brown, Dana, Associate Professor, BS, Murray State University, 2002  
 Campbell, Lauren, Associate Professor, MBA, Eastern Kentucky University, 2013  
 Carney, Jennifer, Instructor, BSN, University of Phoenix, 2009  
 Casey, Crystal, Assistant Professor, AS, Eastern Kentucky University, 2003  
 Chandler, Hunter R, Instructor, MS, Morehead State University, 2019  
 Chirwa, Robert M, Professor, MS, University of Kentucky, 1990  
 Christiansen, John, Assistant Professor, AAS, Gateway Community & Technical College, 2016  
 Clark, Jamie, Associate Professor, BBA, Morehead State University, 2002  
 Clifford, Holly, Assistant Professor, MS, Eastern Kentucky University, 2015  
 Clipson, Rachael, Instructor, BSN, RN, Eastern Kentucky University, 2007



- Coats, Ethan, Instructor, MS, Kentucky State University, 2019
- Coffey, Bobby J, Associate Professor, MS, Eastern Kentucky University, 2006
- Congleton, Yasemin K, Professor, PhD, University of Kentucky, 2005
- Conliffe, Megan, Instructor, BSN, RN, Spalding University, 2015
- Connors, Pamela D, Assistant Professor, MA, University of Kentucky, 1999
- Craycraft, Kevin, Professor, AAS, Central Kentucky Technical College, 2005
- Cropper, Maureen E, Professor, MSIS, Louisiana State University, 2004
- Davis, James Scott, MS, Assistant Professor, University of Nebraska at Kearney, 2015
- Davis, Timothy J, Professor, MFA, University of Southern Mississippi, 1997
- Dean, Tina, Instructor, MSN, University of Phoenix, 2015
- Dietel, Brian C, Assistant Professor, PhD, Oregon State University, 2009
- Dillon, Hannah, Instructor, BSN, Indiana Wesleyan University, 2019
- Disco, Tamarra, Associate Professor, BS, University of Kentucky, 1981
- Druggan, Judy, Associate Professor, MS, University of Florida, 1982
- Dunn, Kevin R, Professor, EdD, University of Kentucky, 2017
- Earlywine, Marly G, Assistant Professor, AAS, Bluegrass Community and Technical College, 2016
- Edelmann, Stephanie, Lecturer, MS, University of Kentucky, 2020
- Eldridge, Brent A, Professor, PhD, University of Kentucky, 2014
- Embry-Bailey, Nolen, Professor, MA, University of North Alabama, 1979
- Erickson, Leif, Associate Professor, MA, Eastern Kentucky University, 2001
- Espinola, Laura, Instructor, PharmD, Sullivan University, 2013
- Fairchild, Virginia R, Professor, MBA, Eastern Kentucky University, 1993
- Farrell, Carla, Assistant Professor, MSN, Indiana Wesleyan University, 2016
- Farrington, Joshua D, Instructor, PhD, University of Kentucky, 2013
- Fenton, James P, Associate Professor, PhD, Columbia University, 1991
- Fisher, Shelby, Instructor, BSN, Indiana Wesleyan University, 2014
- Fitch, Stephanie, Associate Professor, MA, Regent University, 2003
- Foltz, Rebecca, Assistant Professor, MS, Tulane University, 2004
- Franklin, William, Assistant Professor, BS, University of Kentucky, 1992
- Gagle, Morgan, Assistant Professor, BS, Spencerian College, 2016
- Galvin, Sarah J, Professor, MA, Murray State University, 2005
- Gannon, Shawn, Assistant Professor, AAS, Bluegrass Community and Technical College, 2010
- Garg, Aarti, Instructor, MA, University of Delhi, 2003
- Gipe, Fairreia, Instructor, MPH, Eastern Kentucky University, 2010
- Golden, Patricia, Instructor, MA, Western Kentucky University, 1996
- Greenwell, William, Lecturer, MA, Lexington Theological Seminary, 2007
- Greenwood, Cindy, Assistant Professor, MS, Vanderbilt University, 1991
- Hagan, Kelly, Professor, MA, Ball State University, 1992
- Haggerty, Robin, Professor, MA, Indiana University of Pennsylvania, 1993
- Halcomb, Don A, Associate Professor, MS, University of Kentucky, 2005
- Haley, Rebecca J, Professor, MA, Eastern Kentucky University, 2002
- Hardin, Michael, Associate Professor, BS, Eastern Kentucky University, 1993
- Harlow, Aaron, Instructor, AAS, Parkland College, 2009
- Heitzman, Amy, Assistant Professor, MEd, William Woods University, 2019
- Herrin, Jeffrey, Associate Professor, MAT, Eastern Kentucky University, 2002
- Herschleb, Matthew, Associate Professor, MA, University of Kentucky, 2011
- Hinkle, Robert R, Professor, MA, University of Kentucky, 2000
- Hoekstra, Joshua M, Professor, PhD, University of Kentucky, 2019
- Holt, Kristi, Instructor, AAS/ADN, Jefferson Community and Technical College, 2014
- Hopper, Kevin R, Professor, PhD, University of Kentucky, 1998
- Houghton, Lori, Professor, MA, Eastern Kentucky University, 1995
- Huddleston, Angela, Professor, MS, Eastern Kentucky University, 2010
- Hull, Tamara, Instructor, MSN, Northern Kentucky University, 2021
- Hunt, Andrew F, Associate Professor, MEd, University of Kentucky, 2006
- Husted, Alicia, Instructor, MSN, Eastern Kentucky University, 2018
- Jent, Ashley, Associate Professor, BS, Midway University, 2019
- Johnson, Tanya R, Assistant Professor, BA, University of Kentucky, 1992
- Jones, Jenny, Professor, PhD, Capella University, 2018
- Jones, Mary W, Professor, MPH, Eastern Kentucky University, 2013
- Jors, John, Assistant Professor, MS, University of Indiana, 2021
- Kalala, Nkongolo, Associate Professor, PhD, University of Kentucky, 1995
- Kelly, Ryan S, Professor, MS, Florida State University, 1995
- Kendall, Dixie, Associate Professor, BA, Midway College, 2008
- King, Angella M, Professor, MA, University of South Carolina, 2000
- King, Richard N, Professor, MS, University of Kentucky, 1994
- Klosterman, Lesley, Associate Professor, MSRS, Northwestern State University, 2017
- Knight, Brandon, Professor, MA, Texas Tech University, 1998
- Knowles, Tracy, Professor, MS, University of Indiana, 1998
- Lane Jr, Leon, Associate Professor, MA, University of Kentucky, 1993
- Janier, Rebecca A, Associate Professor, MEd, University of Kentucky, 1992
- Larrabee, Shelley, Associate Professor, PhD, University of Kentucky, 2008
- Law, Audrey, Instructor, PhD, University of Kentucky, 2009
- Lee, Duane, Instructor, MPA, Kentucky State University, 2008
- Leon, Ana E, Professor, MS, Jacksonville State University, 1987
- Liles, Tammy J, Professor, MS, University of Kentucky, 1994
- Livingston, Daniel, Lecturer, MFA, Savannah College of Art and Design, 2016
- Lynch, Laura, Assistant Professor, MS, Eastern Kentucky University, 2006
- Madden, Michael, Instructor, BS, Oklahoma State University, 2014
- Magee, David A, Professor, MBA, University of Cincinnati, 1981
- Matchuny, James K, Associate Professor, BS, University of Indiana, 1987
- Mayer, Danny, Associate Professor, PhD, University of Kentucky, 2007
- Mayo, Karen, Associate Professor, PhD, University of Kentucky, 2015
- McCane, Rebecca, Associate Professor, MS, Morehead State University, 1988
- Merrill, Colleen, Associate Professor, MFA, University of Kentucky, 2013
- Miller, Kausha C, Professor, MNS, Southeast Missouri State University, 2000
- Miller, Patricia P, Professor, MAEd, University of Kentucky, 1994
- Mink, Ronald, Instructor, AAS, Bluegrass Community and Technical College, 2007
- Miriti, Landrea A, Professor, PhD, University of Louisville, 2014
- Moran, Lisa, Assistant Professor, MS, Trident University, 2010
- Morris, James Wes, Instructor, PhD, University of Kentucky, 2020
- Motamedi, Hossein, Associate Professor, MA, University of Kentucky, 1986
- Mottas, Peter M, Assistant Professor, MA Walsh University, 1993
- Murphy, William Kevin, Professor, MBA, University of Kentucky, 1991
- Otieno, Iddah A, Professor, PhD, University of Kentucky, 2012
- Palmer, Sara E, Instructor, BS, Northwood University, 2019
- Papanicolaou, Thomas, Associate Professor, MS, University of Kentucky, 1994
- Partin, Vicki D, Professor, MS, University of Kentucky, 1981
- Pelfrey, DeAnna S, Professor, MS, Eastern Kentucky University, 2005
- Perry Jr, Clovis C, Associate Professor, MA, Western Kentucky University, 1985
- Pevley, Jennifer, Professor, MAEd, Eastern Kentucky University, 2007
- Potter, William Ralph, Assistant Professor, BS, Western Kentucky University, 2014
- Quintos, Danni, Assistant Professor, MFA, Indiana University, 2016
- Rashid, Ollie B, Assistant Professor, MA, University of Memphis, 2016
- Ray, Stacey, Assistant Professor, MA, California State University, 1991



Richardson, Kathleen E, Professor, MALIS, Rosary College, 1983  
Richey, Stacy, Instructor, DNP, University of Kentucky, 2016  
Rickert, Gregory W, Professor, MA, University of Kentucky, 1992  
Riggs, Martin, Instructor, AAS, Somerset Community and Technical College, 2014  
Roberts, Danny D, Assistant Professor, AAS, Central Kentucky Technical College, 2004  
Rogers, Thomas F, Professor, MA, University of Kentucky, 2007  
Ross-Brown, Kimberly, Associate Professor, MA, University of Nebraska, 1996  
Russell, Nathan, Instructor, MS, Campbellsville University, 2020  
Rutherford, Maria, Professor, PhD Capella University, 2020  
Saladin, Todd, Instructor, BS, University of Kentucky, 1993  
Sallee, Melanie D, Professor, DNP, Eastern Kentucky University, 2017  
Schmidt, Brandon M, Instructor, MA, University of Louisville, 2019  
Schuman, Daniel B, Professor, PhD, University of Kentucky, 2002  
Sharpe, Sheldon, Assistant Professor, DC, Palmer University, 2001  
Shelton, Becky, Associate Professor, MA, Murray State University, 2020  
Simms, Ruth A, Professor, MS, Eastern Kentucky University, 1995  
Simpson, Zachary, Associate Professor, BHSc, University of Kentucky, 2011  
Sipple-McGraw, Savannah, Associate Professor, MFA, Spalding University, 2008  
Smoot, Richard C, Professor, PhD, University of Kentucky, 1988  
Snyder, William D, Associate Professor, DMD, University of Kentucky, 1993  
Steele, Brian, Instructor, BA, University of Kentucky, 1990  
Stoecklein, Robert, Instructor, AAS, Bluegrass Community and Technical College, 2022  
Stone, Steven A, Associate Professor, MSIS, University of Illinois at Urbana-Champaign, 1991  
Story, John E, Associate Professor, PsyD, Forest Institute of Professional Psychology, 1991  
Strobel, Norman E, Professor, PhD, Cornell University, 1989  
Sturdivant, Ty, Associate Professor, MBA, University of Kentucky, 1992  
Sturgill, David, Assistant Professor, MA, Eastern Kentucky University, 2018  
Swango, Kathleen, Professor, MA, Morehead State University, 1982  
Sweat, Jessica, Instructor, BSN, Indiana Wesleyan, 2014  
Sword, Erza, Assistant Professor, MA, University of Texas at Austin, 2008  
Thompson, Victoria, Instructor, MS, University of Kentucky, 2018  
Thrower, Jon, Assistant Professor, MA, Southeast Missouri State University, 2006  
Travis, Rebekah, Instructor, AAS, Bluegrass Community and Technical College, 2012  
Turner, Ryan, Instructor, MSN, Western Governors University, 2021  
Venables, Julia, Instructor, AAS/ADN, Eastern Kentucky University, 2011  
Waits, Elizabeth, Instructor, MSN, Eastern Kentucky University, 2014  
Wand, Sherry, Instructor, BA, Washington University, 1999  
Webb, Dixie, Assistant Professor, MSN, University of Kentucky, 1977  
Webster-Little, Stacy, Associate Professor, MA, University of Nebraska Lincoln, 1996  
Wethington, Kristy, Instructor, BSN, Indiana Wesleyan University, 2011  
Wheeler, Yules, Professor, MA, Campbellsville College, 2008  
White, Steven J, Professor, PhD, University of Illinois, 1990  
White, Tanya, Associate Professor, MA, University of Kentucky, 1971  
Williams, Laura A, Associate Professor, MA, Eastern Kentucky University, 1997  
Williamson, Melanie G, Professor, PhD, University of Kentucky, 2021  
Wiseman, Jackie, Professor, MS, Eastern Kentucky University, 1988  
Young, Ashley, Instructor, MS, Western Kentucky University, 2011  
Zeps, Valdis J, Associate Professor, PhD, University of Washington, 1989

# Elizabethtown Community and Technical College

## Mission Statement/Status of Accreditation

Elizabethtown Community and Technical College (ECTC) provides accessible and comprehensive technical and transfer education designed to facilitate student success, develop the region's workforce, and engage the community in learning.

ECTC is a member of the Kentucky Community and Technical College System.

Elizabethtown Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Elizabethtown Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org)) (<https://www.sacscoc.org/>).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C, D, A)
- Advanced Nursing Assistant (C)
- Agriculture (C, A)
- Air Conditioning Technology (C, D, A)
- Apprenticeship Studies (A)
- Automotive Technology (C, D, A)
- Business Administration (C, D, A)
- Computer Aided Drafting and Design (C, D, A)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Criminal Justice (C, A)
- Culinary Arts (C, D, A)
- Diagnostic Medical Sonography (A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Electrical Technology (C, D, A)
- Emergency Medical Technician (C)
- Engineering and Electronics Technology (C, D, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Science Technology (A)
- Human Services (C, A)

- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Manufacturing Engineering Technology (C)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C, A)
- Nursing (A)
- Plumbing Technology (C, D, A)
- Practical Nursing (C)
- Radiography (A)
- Real Estate (C)
- Respiratory Care (C, A)
- Welding Technology (C, D, A)

## Contact Information

### Elizabethtown Community and Technical College

600 College Street Road  
Elizabethtown, KY 42701  
(270) 769-2371  
(877) 246-2322 (toll-free)  
[elizabethtown.kctcs.edu](http://elizabethtown.kctcs.edu) (<http://elizabethtown.kctcs.edu>)

### Fort Knox Center

1174 Dixie Street  
Fort Knox, KY 40121  
(270) 706-8853

### Springfield Campus

160 Corporate Drive  
Springfield, KY 40069  
(859) 336-1361

### Leitchfield Campus

101 East Carroll Gibson Boulevard  
Leitchfield, KY 42754  
(270) 259-1540

## General Information

(270) 769-2371; (855)7GO-ECTC

Office	Phone number
Counseling, Advising & Transfer	(270) 706-8695
Disability Services	(270) 706-8455
Human Resources	(270) 706-8450
Library	(270) 706-8812
Public Relations	(270) 706-8836
Veterans Affairs	(270) 706-8459
Workforce Solutions	(270) 706-8700
Website	<a href="https://elizabethtown.kctcs.edu">https://elizabethtown.kctcs.edu</a>

## Administration

Position	Name
President/CEO	Dr. Juston C. Pate
Acting/Chief Academic Officer	Darrin Powell
Chief Student Affairs Officer	Dr. Dale Buckles
Chief Financial Facilities Officer	Brent Holsclaw
Dean of Business	Joe Mattingly

Dean of Workforce Development	Michael Hazzard
Chief Institutional Advancement Officer	Megan Stith
Cultural Diversity Director	Jerisia Lamons
Interim Campus Director Springfield	Heather Reynolds
Interim Campus Director Leitchfield	Cindy Carman
Interim Campus Director Fort Knox	Lisa Hinton
Human Resources Director	Whitney Taylor
Financial Aid Director	Michael Barlow
Marketing and Recruitment	Sarah Berkshire
Information Technology Director	Michael Meanor
Educational Excellence Director	Pam Harper
Institutional Effectiveness Coordinator	Sarah Edwards
Distance Learning Coordinator	Ramona Barrow
Division of Fine Arts & Humanities	Jacqueline Hawkins
Division of Biological & Health Sciences	Anna Hamilton
Division of Physical Sciences	Dr. Shawn Kellie
Division of Social & Behavioral Sciences	Dr. John Waldron
Division of Technical Programs	Thomas Csonka

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Alburg, Tammy, Lecturer, MA, Morehead State University, 1994  
 Anderson, Lon, Assistant Professor, AAS, Elizabethtown Community and Technical College, 2009  
 Barnes, Dylan, Instructor, AAS, Elizabethtown Community and Technical College, 2017  
 Barrow, Ramona, Professor, MS, Strayer University, 2004  
 Beauchamp, Cheryle, Associate Professor, MBA, DeVry University, 2008  
 Blanks, Rhonda, Professor, MSN, University of Phoenix, 2010  
 Bradley, Joseph, Assistant Professor, PhD, University of Louisville, 2018  
 Bratcher, Tracy, Professor, MA, Western Kentucky University, 1998  
 Brockman, Douglas, Associate Professor, AAS/AAT, Elizabethtown Technical College, 2000  
 Brooks, Joshua, Assistant Professor, AS, Colorado Technical University, 2014  
 Brothers, Stephanie, Associate Professor, BS, University of Louisville, 2011  
 Brown, Charles, Professor, MBA, University of Louisville, 1969  
 Brown, Margaret, Associate Professor, MA, Western Kentucky University, 2007  
 Brown, Shawn, Professor, MS, Morehead State University, 2007  
 Bull, Marsha, Assistant Professor, Doctor of Veterinary Medicine, University of Wisconsin, 2014  
 Burns, Erin, Assistant Professor, BS, Morehead State University, 2002  
 Caffee, Lisa, Instructor, MA, Central Michigan University, 1995  
 Cantrell, Douglas, Professor, MA, University of Kentucky, 1985  
 Cantrell, Lisa, Professor, MA, Morehead State University, 1986  
 Chism, John, Professor, AAS, Elizabethtown Community & Technical College, 2002  
 Clemons, Jerry, Professor, MS, Eastern Kentucky University, 2010  
 Cole, William, Professor MS, Murray State University, 2001  
 Condiff, Sara, Professor, MAE, Western Kentucky University, 2007

Cooper, Yavaletta, Associate Professor, MS, Delta State University, 2012  
 Cordova, Timothy, Professor, MA, Midwestern State University, 2002  
 Coulston, Charles, Associate Professor, MS, University of Kentucky, 2006  
 Counts, Gideon, Assistant Professor, AAS, Elizabethtown Community & Technical College, 2017  
 Csonka, Thomas, Assistant Professor AAS, Elizabethtown Community & Technical College, 2013  
 Davis, John, Associate Professor, PhD, University of Kentucky, 2003  
 Dile, Beverly, Professor, MA, West Virginia University, 1984  
 Doty, Brent, Professor, MA, Western Kentucky University, 2003  
 Douglas, Robert, Assistant Professor, PhD, Walden University, 2020  
 Druen, Joshua, Professor, Morehead State University, MA, 2012  
 Dryden, John, Associate Professor, PhD, University of Louisville, 2013  
 Edwards, Sarah, Professor, MS, Walden University, 2007  
 Eicher, Katrina, Professor, MA, University of Nebraska, 1989  
 Faherty, Erin, Instructor, MA, Northern Illinois University, 1992  
 Figary, Melanie, Assistant Professor, MS, Murray State University, 2019  
 Fox-Angerer, Amy, Associate Professor, MFA, Spalding University, 2009  
 Gabehart, Stephen, Associate Professor, AS, Western Kentucky University, 2008  
 Galloway, Joseph, Associate Professor, MS, Western Kentucky University, 2005  
 Grey, Jody, Instructor, AAS, Elizabethtown Community and Technical College, 2011  
 Hamilton, Anna, Associate Professor, MA, Saint Catharine College, 2014  
 Hampton, Julie, Assistant Professor, BS, Walden University, 2017  
 Hall II, D. Matthew, Instructor, MA, Campbellsville University, 2012  
 Harper, Pamela, Professor, MA, SCT, Murray State University, 1980  
 Hasty, Heidi, Assistant Professor, AAS, Elizabethtown Community and Technical College, 2014  
 Hawkins, Jacqueline, Professor, MA, Florida State University, 2006  
 Hazzard, Michael, Professor, BS, Western Kentucky University, 2007  
 Henderson, JoNell, Associate Professor, MBA, Amberton University, 1989  
 Hicks, MeLeah, Professor, MA, Western Kentucky University, 1994  
 Higdon, Rebecca, Professor, MS, University of Louisville, 2011  
 Hines, Brian, Assistant Professor, MS, Morehead State University, 2016  
 Hornback, M. Carla, Professor, MA, Western Kentucky University, 1989  
 Kellie, Shawn, Professor, PhD, University of Louisville, 2005  
 Kennedy, Kevin, Professor, MA, Indiana University, 1996  
 Late, David, Assistant Professor, AAS, Elizabethtown Community and Technical College, 2016  
 Lilygren, Deena, Associate Professor, MFA, Murray State University, 2017  
 Lloyd, Daniel, Associate Professor, MS, Eastern Illinois University, 1998  
 Lowe, Robert, Professor, AAS, Elizabethtown Technical College, 2010  
 Mackellar, Laurie, Associate Professor/Librarian II, MLS, University of Kentucky, 1992  
 Madras, Navin, Professor, MS, Marquette University, 2001  
 Marques, Sandra, Director of Nursing, MS, Northern Arizona University, 2017  
 Massaroni, Nolan, Associate Professor, BS, Southern Illinois University, 2005  
 Matthews, Clay, Associate Professor, PhD, Oklahoma University, 2008  
 Mattingly, Melia, Assistant Professor, MA, Western Kentucky University, 1996  
 McDowell, Kameron, Instructor, BSN, University of Texas at Arlington, 2016  
 McFalls-Smith, Tiffany, Professor, MS, Southeastern Louisiana University, 2004  
 Meredith, Rosemary, Professor, BS, University of Louisville, 1995  
 Metzger, Revel, Professor, MA, Western Kentucky University, 1999  
 Meyer, Callista, Professor/ Librarian I, MLS, University of Kentucky, 2007  
 Mihalco, Michael, Associate Professor, MS, University of Maine, 2007

Miracle, Jamie, Assistant Professor, BS, Eastern Kentucky University, 2002

Nason, Dean, Associate Professor, MA, Western Kentucky University, 1979

Nusbaumer, David, Associate Professor, MA, University of Montana, 1992

Owsley, W, Diane, Professor, PhD, University of Louisville, 2009

Page, Martha, Professor, MS, Vanderbilt University, 1979

Parrett, Kevin, Associate Professor, MS, Sullivan University, 2005

Pate, F, Susie, Professor, AS, Sullivan University, 1995

Phillips, Breanna, Assistant Professor, MA, Western Kentucky University, 2018

Puckett, Thomas, Assistant Professor, AAS, Elizabethtown Community & Technical College, 2010

Raizor, Glenn, Professor, AAS, Elizabethtown Community & Technical College, 2005

Ray, Rachel, Professor, MA, Indiana University, 2005

Rigney, Mary, Professor, MA, Western Kentucky University, 2001

Rivera, Jeffrey, Professor, AAS, Elizabethtown Community & Technical College 2005

Roberts Jr, Phillip, Associate Professor, MBA, University of Phoenix, 2011

Schork, James, Professor, EdD, Northern Illinois University, 1994

Sharber, Chantia, Instructor, MS, University of Louisville, 2006

Smith, Benjamin, Assistant Professor, BS, Eastern Kentucky University, 2017

Smith, David, Assistant Professor, MSW, Western Kentucky University, 2016

Spalding, Jared, Professor, BS, Western Kentucky University, 2002

Stearns, Gary, Professor, PhD, University of Kentucky, 1990

Sutherland, Marty, Professor, BS, Southern Illinois University, 1996

Thompson, Daren, Instructor, AA, Elizabethtown Community and Technical College, 2001

Towell, Elizabeth, Professor, MA, University of Kentucky, 1995

Valora, Joseph, Associate Professor, AAS, Elizabethtown Community & Technical College, 2013

Waldron, John, Associate Professor, PhD, Texas A & M University, 2002

Weakley, Willie, Assistant Professor, AAS, Elizabethtown Community & Technical College, 2019

Wicks, Edward, Professor, MS, Syracuse University, 2001

Wiles, Matthew, Associate Professor, PhD, University of Louisville, 2014

Williams, Barry, Assistant Professor, MA, Austin Peay State University, 2010

Winchester, Charles, Assistant Professor, MS, Western Kentucky University, 2017

Wolf, Joe, Associate Professor, PhD, University of Kentucky, 1992

Wright, Miky, Associate Professor, MS, Western Kentucky University, 2015

Yates, Jennifer, Associate Professor, MS, Western Kentucky University, 2012

Young, Cody, Professor, AAS, Bluegrass Community and Technical College, 2004

# Gateway Community and Technical College

## Mission Statement/Status of Accreditation

Gateway Community & Technical College engages, connects, and inspires all students through education to successfully champion our region's competitive workforce and improve their quality of life.

Gateway Community & Technical College is a member of the Kentucky Community and Technical College System and is a public two-year degree granting institution serving the Northern Kentucky Region.

Gateway Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Gateway Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Air Conditioning Technology (C, D, A)
- Apprenticeship Studies (A)
- Automotive Technology (C, D, A)
- Business Administration (C, D, A)
- Business Foundations (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Criminal Justice (C, A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Electrical Technology (C, D, A)
- Emergency Medical Services – Paramedic (C, A)
- Emergency Medical Technician (C)
- Energy Technologies (C, A)
- Fire Science Technology (C, D, A)
- Health Information Technology (C, A)
- Health Science Technology (A)
- Human Services (C, A)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Manufacturing Engineering Technology (C, A)
- Massage Technology (C, A)

- Medical Assisting (C, A)
- Nursing (A)
  - Kentucky Medication Aide (C)
- Paralegal Technology (C, A)
- Plumbing Technology (C)
- Medicaid Nurse Aide (C)
- Supply Chain Management (C)
- Truck Driver Training (C)
- Welding Technology (C, D, A)

## Contact Information

### Gateway Community and Technical College

Main numbers: (859) 441-4500

1-(855) 3GO-GCTC [1-(855) 346-4282]

[gateway.kctcs.edu](http://gateway.kctcs.edu) (<http://gateway.kctcs.edu>)

### Boone Campus

500 Technology Way

Florence, KY 41042

### Edgewood Campus

790 Thomas More Parkway

Edgewood, KY 41017

### Urban Metro Campus

516 Madison Avenue

Covington, KY 41011

## General Information

Office	Phone number
Accessibility Services	(859) 442-4120
Admissions	1-855-3GO-GCTC (1-855-346-4282)
Adult Education	(859) 442-1695
Advising Center	(859) 442-1630
Business Office	1-855-3GO-GCTC (1-855-346-4282)
Communications	(859) 442-1625
Financial Aid	1-855-3GO-GCTC (1-855-346-4282)
Human Resources	(859) 442-1150
Library and Information Services	(859) 442-4162
Registrar	(859) 442-4176
Safety and Security	(859) 442-4129
Testing Center	(859) 442-1159
Transfer	(859) 442-1149
Veterans Affairs	(859) 442-1710
Workforce Solutions	(859) 442-1130
Website	<a href="http://gateway.kctcs.edu">http://gateway.kctcs.edu</a>
Facebook	<a href="http://facebook.com/GatewayCTC">http://facebook.com/GatewayCTC</a> ( <a href="http://facebook.com/GatewayCTC/">http://facebook.com/GatewayCTC/</a> )

## Administration

Position	Name
President	Dr. Fernando Figueroa
Executive Assistant to the President	Jane Frantz
Provost and Vice President, Academic Affairs	Dr. Teri VonHandorf



Vice President, Administrative and Business Affairs	Jamie Younger
Vice President, Development and External Relations	Adrijana Kowatsch
Vice President, Student Affairs	Ingrid Washington
Associate Vice President, Academic Services	Doug Penix
Associate Vice President, Enrollment	Andre Washington
Vice President, Human Resources	Amy Hatfield
Associate Vice President, Inclusion and Intervention Services	Dr. Tiffany Minard
Associate Vice President, Student Affairs	Mallis Graves
Associate Vice President, Workforce Solutions	Christi Godman
Dean, Arts and Sciences	Vacant/Posted
Dean, Business, Information Technology and Professional Studies	Dr. Amy Carrino
Dean, Health Professions	Amber Carter
Dean, Institutional Effectiveness	Dr. Denise Fritsch
Dean, Manufacturing and Transportation Technologies	Sam Collier
Registrar	Andre Washington
Regional Director of Adult Education/Assessment/Placement Testing Coordinator	Peg Russell
Director, Academic Advising	Jennifer Jones
Director, Budget and Fiscal Services	Paul Tontillo
Director, Development	Vacant
Director, Assessability Services	Dana Franxman
Director, Early College Opportunities	Shelby Krentz
Director, Admissions	Erica Clayton
Director, Financial Aid	Ellen Teegarden
Director, Information Services	Melissa Sears
Director, Knowledge Management	Steve Popple
Director, Library and Information Services	Elizabeth Goodman
Director, Maintenance and Operations	Mike Baker
Director, North Central Area Health Education Center	Juliana McGuinn
Director, Nursing	Michele Simms
Director, Ready to Work	Denise Critchelow
Director, Student Record Department	Ann Schultz
Director, Student Support Services – Project Aspire	Anita Adkins
Manager of Grants	Autumn Schuler

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Addison, Curt, Instructor, Kentucky Commercial Drivers License Instructor License, 33 years Occupational Experience

Albert, Stephanie Winter, Professor, MEd, Northern Kentucky University, 1993

Bennett, Frances Ann, Assistant Professor, MA, Northern Kentucky University, 2017

Blum-Pretty, Sherry, Associate Professor, MA, Northern Kentucky University, 2010

Boggs, Jessica Lauren, Instructor, AAS, Gateway Community and Technical College, 2010

Brewer, Christopher J, Assistant Professor, AAS, Wisconsin Indianhead Technical College, 1997

Brown, Brittany L, Instructor, BSN, Thomas More University, 2011

Burch, Courtney, Professor, MA, Northern Arizona University, 2009

Camm, Jana, Associate Professor, MEd, Northern Kentucky University, 1981

Campbell, Krista N, Instructor, MA, The University of Akron, 1992

Carrino, Amy, Professor, JD, Salmon P Chase College of Law, 1988

Carroll, John, Instructor, JD, Salmon P Chase College of Law, 2000

Carter, Amber, Professor, MBA, Northern Kentucky University, 2019

Clark, Richard A, Instructor, Certificate, Gateway Community and Technical College, 1998

Collier, Samuel E, Professor, MA, Morehead State University, 2018

Comparetto, William J, Assistant Professor, MA, Miami University, 2008

Cornine, Tori R, Instructor, BSN, The Christ College of Nursing and Health Sciences, 2018

Crawford, Charles, Instructor, AAS, Gateway Community and Technical College, 2018

Da Silva, Fares, Professor, MA, Indiana State University, 2008

DeBerry, John R, Professor, MA, University of Wyoming, 2003

Deeley Wilhite, Holly Michelle, Professor, PhD, University of Louisville, 2003

Donahue, William, Instructor, AAS, Bluegrass Community and Technical College, 2012

Down, Sharon, Associate Professor, MA, University of Virginia, 1993

Eden-Shingleton, Andrea E, Instructor, BSN, Miami University, 2006

Ervin, Justin, Professor, PhD, Northern Arizona University, 2011

Fitzgerald, Ty E, Assistant Professor, MEd, Miami University, 2013

Foltz, Rodney, Instructor, 5 Years Occupational Experience, ASE Master Certification

Funk, Adam J, Assistant Professor, PhD, The University of Alabama at Birmingham, 2011

Frazier, Paul, Associate Professor, PhD, University at Albany SUNY, 2001

Frazier, Ricky Nelson, Instructor, Certificate, Somerset Community College, 1999

Gibbs, James F, Lecturer, JD, University of Louisville, 1992

Giesey, Mark E, Lecturer, BS, University of Cincinnati, 1986

Gilvin, Jimmy W, Instructor, AAS, Maysville Community and Technical College, 2011

Grooms, Chad M, Assistant Professor, MBA, Morehead State University, 1998

Hafley, Matthew R, Instructor, MS, University of Cincinnati, 2000

Hartlaub, Elizabeth V, Instructor/Librarian IV, MLS, Indiana University Bloomington, 2005

Hampton, George D, Assistant Professor, MS, American InterContinental University, 2019

Hitter, Meredith G, Instructor, BSN, Thomas More University, 2019

Holbrook, Adara Raquell, Assistant Professor, BS, Northern Kentucky University, 2019

Hubbard, Lisa, Instructor, DNP, Vanderbilt University, 2012

Huff, Alexandria D, Instructor, BA, Northern Kentucky University, 2013

Hughes, Keith, Associate Professor, PhD, LSU Health Sciences Center, 1994

Jing, Weizhong, Professor, MS, New Jersey Institute of Technology, 1998

Klein, Paul Joseph, Assistant Professor, PhD, University of Louisville, 2012

Leonard-Stacy, Gina M, Instructor, AAS, Sinclair Community College, 2011

Lipscomb, Phillip Gabriel, Assistant Professor, AAS, Gateway Community and Technical College, 2011

Lutes, Paul Alan, Instructor, BS, Northern Kentucky University, 1995

Mathew, George, Professor, PhD, University of Kentucky, 1994

McBreen, Anissa D, Assistant Professor, BS, University of Cincinnati, 2020

McKenna, Kerri, Associate Professor, EdD, Northern Kentucky University, 2011

Miller, Jennifer H, Assistant Professor, PhD, University of Louisville, 2002

Mueller, Michael Andres, Assistant Professor, BA, Wilmington College, 2016

Myka, Jennifer, Associate Professor, PhD, University of Kentucky, 2003

Neelly, Rocky, Associate Professor, MA, University of Cincinnati, 2008

Nelson, Lance, Associate Professor, BA, Marshall University, 1987

Ostendorf, Audrey, Assistant Associate Professor, MA, Northern Kentucky University, 2014

Parks, Andres, Instructor, MSN, Western Governors University, 2021

Phinney, Allen B, Lecturer, AA, University of Phoenix, 2013

Popple, Elizabeth, Assistant Professor, BA, College of Mount St. Joseph, 1993

Ramler, Meredith, Associate Professor, EdD, Northern Kentucky University, 2021

Reynolds, Jon, Instructor, BA, Centre College, 1995

Rickels, Christopher, Associate Professor, MA, The University of Toledo, 2013

Rickert, Patrick E, Associate Professor, MS, University of Wisconsin, 2000

Riley, Michael P, Instructor, MBA, Morehead State University, 2005

Risk, Carol L, Assistant Professor, JD, Salmon P Chase College of Law, 2006

Russell, Margaret, Instructor, MEd, Xavier University, 1990

Russey, Christopher D, Assistant Professor, MS, Syracuse University, 2006

Schaefer, David, Assistant Associate Professor, MA, Northern Kentucky University, 2013

Settlemyer, Beth, Professor, ME, University of Cincinnati, 2008

Shaw, Weston J, Instructor, MS, Wright State University, 2020

Simms, Michele, Instructor, MSN, University of Phoenix, 2013

Smith, Sarah, Assistant Associate Professor, EdD, Northern Kentucky University, 2019

Stamper, Cassandra, Instructor, BS, Western Governors University, 2020

Steffen, Nicholas Michael, Instructor, AAS, Gateway Community and Technical College, 2020

Stroud, Reva, Assistant Professor, BS, Northern Kentucky University, 2010

Vallette, Natasha, Associate Professor, MA, Bowling Green State University, 2012

Walter, Eileen, Assistant Professor, MA, University of Cincinnati, 1998

Warburton, Charles, Professor, MA, University of Cincinnati, 2006

Weber, Carrie Ann, Instructor, AAS, Gateway Community and Technical College, 2008

Wilken, Irish C, Instructor, BS, University of Cincinnati, 2004

# Hazard Community and Technical College

## Mission Statement/Status of Accreditation

Hazard Community and Technical College empowers students by providing equitable educational opportunities that lead to student success, rewarding careers, and community enhancement.

Hazard Community and Technical College is a member of the Kentucky Community and Technical College System serving the needs of Southeastern Kentucky.

Hazard Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Hazard Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Advanced Integrated Technology (C)
- Agriculture (C)
- Air Conditioning Technology (C, D)
- Applied Process Technologies (C)
- Automotive Technology (C, D, A)
- Business Administration (C, D, A)
- Business Communications (C)
- Community Health Worker (C)
- Computer Aided Drafting and Design (C, D)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing & Machining (C)
- Construction Technology (C, D)
- Cosmetology (C, D)
- Criminal Justice (C, A)
- Diagnostic Medical Sonography (A)
- Diesel Technology (C, D)
- Electrical Technology (C, D)
- Emergency Medical Services – Paramedic (C)
- Energy Technologies (C)
- Financial Customer Service (C)
- Fire Science Technology (C, A)
- General Occupational/Technical Studies (A)

- Health Care Foundations (C)
- Heavy Equipment Operation (C, D)
- Human Services (C, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Manufacturing Engineering Technology (C, A)
- Medicaid Nurse Aide (C)
- Medical Assisting (C, A)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C)
- Nursing (A)
- Physical Therapist Assistant (A)
- Practical Nursing (D)
- Professional Studio Artist (C, D, A)
- Radiography (C, A)
- Surgical Technology (A)
- Surveying & Mapping Technology (C)
- Telehealth Technician Associate (C)
- Truck Driver Training (C)
- Unmanned Systems Technology (C, A)
- Visual Communication:
  - Design & Technology (C)
- Welding Technology (C, D)

## Contact Information

### Hazard Community & Technical College

One Community College Drive  
Hazard, KY 41701  
(800) 246-7521  
[hazard.kctcs.edu](http://hazard.kctcs.edu) (<http://hazard.kctcs.edu>)

### Hazard Campus

One Community College Dr.  
Hazard, KY 41701  
(800) 246-7521

### Technical Campus

101 Vo Tech Dr.  
Hazard, KY 41701  
(800) 246-7521

### Lees College Campus

601 Jefferson Ave.  
Jackson, KY 41339  
(800) 246-7521

### Knott County Branch

238 HWY 160 (Physical)  
PO Box 1498 (Mailing)  
Hindman, KY 41822  
(800) 246-7521

### Leslie County Center

108 Maple Ave. (Physical)  
PO Box 1870 (Mailing)  
Hyden, KY 41749  
(800) 246-7521

## General Information

Office	Phone number
Academics	(606) 487-3089
Admissions	(606) 487-3293
Business Office	1-855-6GO-HCTC (1-855-646-4282)
Disability Services	(606) 487-3486
Financial Aid	(606) 487-3080
Human Resources	(606) 487-3111
Library	(606) 487-3304
Marketing/Public Relations	(606) 487-3141
Records	(606) 487-3311
Transfer Information	(606) 487-3077
Veterans Affairs	(606) 487-3059
Workforce Solutions	(606) 487-3287
Website	<a href="http://hazard.kctcs.edu">http://hazard.kctcs.edu</a>

## Administration

Position	Name
President/CEO	Dr. Jennifer Lindon
Assistant to the President	Carla Coghill
Chief Academic Officer	Dr. Ella Strong
Chief Student Affairs Officer	Dr. Deronda Mobelini
Chief Business Services Officer	Connie Watts
Chief Human Resource Officer	Vickie Combs
Chief Information Officer	Donna Roark
Dean of Workforce	Keila Miller
Dean of Operations	Stu Fugate
Dean of Health & Public Services	Melissa Couch
Dean of Advanced Services & Technologies	Tony Back
Dean of Arts, Sciences & KSBTM	Leila Smith
Nursing	Dr. Ella Strong

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Adams, Douglas D, Professor, AAS, Hazard Technical College, 2002  
 Back, Tony, Professor, MS, Eastern Kentucky University, 2012  
 Barger, Lyndon Bryon, Instructor, MBA, Wayne State College, 2016  
 Barnes Jr, Donald R, Professor, MS, Oklahoma State University, 1992  
 Blankenship, Dylan, Instructor, Certificate, Hazard Community and Technical College, 2013  
 Boothe, Jenna L, Professor, DNP, Western Kentucky University, 2015  
 Bowlin, Virgil L, Assistant Professor, University of the Cumberlands, 1997  
 Bowling, Randy L, Associate Professor, 51 years Teaching Experience, 29 years Occupational Experience  
 Bowling, Tracy L, Professor, DPT, University of Kentucky, 2010  
 Branson, Cathy A, Librarian I, MSLS, University of Kentucky, 2005  
 Brunty, Helen F, Professor, MSW, University of Kentucky, 2000  
 Bryant, Randall K, Professor, MA, West Georgia College, 1988  
 Clemons, Mavis, Associate Professor, MS, Eastern Kentucky University, 2010  
 Collins, Gwendolyn, Professor, MSN, University of Kentucky, 1982  
 Combs, Jerry M, Professor, MA, Morehead State University, 2011

Cornett, Willie, Associate Professor, AAS, Hazard Community and Technical College, 2009  
 Couch, Melissa, Associate Professor, MS, Eastern Kentucky University, 2017  
 Cueller, Ramon E, Assistant Professor, MS, University of Iowa, 2005  
 Cravens, Thomas L, Assistant Professor, MS, University of Kentucky, 1989  
 Davidson, Gwendolyn, Associate Professor, EdD, Eastern Kentucky University, 2021  
 Dunn, Timothy J, Professor, MA, University of Kentucky, 1989  
 Ellis, Jessica, Assistant Professor, BS, Morehead State University, 2008  
 Fields, Rebekah E, Associate Professor, BSN, Eastern Kentucky University, 2017  
 Flannery, Madeline K, Professor, MA, Columbia University, 1986  
 Francis, Sam W, Professor, PhD, University of Kentucky, 1998  
 Frazier, David L, Professor, EdD, Eastern Kentucky University, 2021  
 Gibson, Diane A, Lecturer, MS, Louisiana Tech University, 2009  
 Globig, Sabine A, Professor, MS, Rutgers University, 1988  
 Grubb, David, Instructor, Diploma, Technichron Incorporated Vocational Institute, 1985  
 Harris, Ann W, Lecturer, PhD, University of Kentucky, 2020  
 Holl, Richard E, Professor, PhD, University of Kentucky, 1996  
 Holliday, Charmoin, Assistant Professor, AAS, Hazard Community and Technical College, 2014  
 Hudson, Evelyn, Librarian III, MS, University of Kentucky, 2015  
 Ingram, Danny M, Professor, BS, Eastern Kentucky University, 2008  
 Lutes, Jennifer, Associate Professor, MA, Morehead State University, 2010  
 Maggard, Wilma, Associate Professor, Certificate, Hazard Community and Technical College, 2003  
 Martin, Christina R, Professor, MSN, Eastern Kentucky University, 2009  
 Martin, Joanna H, Associate Professor, Diploma, Cumberland Valley Technical College, 1999  
 Massey, Harold B, Assistant Professor, MA, Morehead State University, 2014  
 May, Scott R, Professor, MS, Indiana State University, 1990  
 Medlin, Rex, Lecturer, MS, Arkansas State University, 2007  
 Mobelini, Deronda C, Professor, EdD, University of Kentucky, 2012  
 Moon, Randall B, Professor, PhD, University of California at Riverside, 2000  
 Napier, Samuel Scott, Associate Professor, 24 years Teaching Experience, 20 years Occupational Experience  
 Neace, Shaun, Assistant Professor, AAS, Hazard Community and Technical College, 2003  
 Neace, Thomas D, Professor, MA, Eastern Kentucky University, 1996  
 Niece, Ralph D, Assistant Professor, 24 years Occupational Experience  
 Osborne, Norman Dean, Instructor, 37 years Teaching Experience, 31 years Occupational Experience  
 Owens, Elizabeth Jade, Instructor, BSN, Chamberlain University, 2022  
 Rafferty, Austin M, Instructor, AAS, Hazard Community and Technical College, 2007  
 Sasser, Lynn D, Professor, MS, Eastern Kentucky University, 1972  
 Smith, Gary Wayne, Assistant Professor, AAS, Hazard Community and Technical College, 2018  
 Smith, Leila Sandlin, Professor, MBE, Morehead State University, 1987  
 Smith, Penny, Assistant Professor, MA, University of Kentucky, 1992  
 Smith, Walter, Associate Professor, MS, University of Cincinnati, 2007  
 Spears, April J, Assistant Professor, MS, Eastern Kentucky University, 2008  
 Spencer-Barnes, Amanda G, Associate Professor, EdD, Eastern Kentucky University, 2021  
 Stamper, Vera Dawn, Associate Professor, DPT, University of Kentucky, 2011  
 Swafford, Bryan, Associate Professor, BA, Alice Lloyd College, 2000

Thorpe, Rebecca Dawn, Instructor, MBA, Morehead State University, 2009  
Vergne, Stephanie L, Professor, MA, Morehead State University, 2001  
Wernette, Amy S, Professor, MS, University of Michigan, 1996  
Whittaker, Timothy, Professor, BS, Midwestern State University, 2005  
Williams, Jenny D, Professor, MA, University of Kentucky, 1992  
Wilson, Jennifer, Instructor, BA, University of the Cumberlands, 2022  
Wireman, April Graham, Assistant Professor, MA, Eastern Kentucky University, 2005  
Wood, Jeremy R, Professor, MS, University of Tennessee, 1993



# Henderson Community College

## Mission Statement/Status of Accreditation

The Mission of Henderson Community College is to enhance the quality of life and employability of our diverse communities by serving as the leading provider of

- College and Career Readiness
- Transfer and Technical Education
- Workforce Development
- Lifelong Learning and Cultural Enrichment

Henderson Community College, a member of the Kentucky Community and Technical College System, is a public associate degree-granting institution serving Northwest Kentucky.

Henderson Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Henderson Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org)) (<https://www.sacscoc.org/>).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Agriculture (C, D, A)
- Business Administration (C, A)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C)
- Electrical Technology (C)
- Engineering and Electronics Technology (C)
- Health Science Technology (A)
- Industrial Maintenance Technology (C, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Medical Assisting (C, D, A)
- Medical Laboratory Technician (C, A)
- Nursing (A)
- Pharmacy Technology (C)
- Telehealth Technician Associate (C)
- Truck Driver Training (C)
- Welding Technology (C)

## Contact Information

Henderson Community College

2660 South Green Street  
Henderson KY 42420  
(270) 827-1867  
Toll free: 800-696-9958  
[Henderson.kctcs.edu](http://Henderson.kctcs.edu) (<http://Henderson.kctcs.edu>)

## General Information

Office	Phone number
Welcome Center	(270) 827-1867 or (800) 696-9958
Admissions	1-855-GO-HCC44 (855-464-2244)
Advancement	(270) 831-9626
Advising	(270) 831-9610
Assessment Center	(270) 831-9783
Business Office	1-855-GO-HCC44 (855-464-2244)
Continuing Education	(270) 831-9847
Disability Services	(270) 831-9783
Financial Aid	1-855-GO-HCC44 (855-464-2244)
Human Resources	(270) 831-9617
Library	(270) 831-9760
Orientation	(270) 831-9607
Public Relations	(270) 831-9805
Records	1-855-GO-HCC44 (855-464-2244)
Technology Solutions Help Desk	(270) 831-9616
Transfer Information	(270) 831-9828
Veterans Affairs	(270) 831-9627
Workforce Solutions	(270) 831-9847

## Administration

Position	Name
President and CEO	Dr. Jason Warren
Associate Dean of Academic Affairs	Mike Knecht
Chief Academic Officer	Vacant
Chief Business Officer	Kathryn Lea
Chief Advancement Officer	Jennifer Preston
Coordinator of Diversity, Equity and Inclusion	Vacant
Director of Human Resources	Kim Jones
Director of Knowledge Management	Brian McMurtry
Chair, Allied Health Division	Dr. Carole Mattingly
Chair, STEM Division	Barry Phelps
Dean of Enrollment Management	Dr. Chad Phillips
Director of Nursing	Sarah Crick, Interim

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Becker, Kara, Professor, ME, Western Kentucky University, 2003  
Blair, Adam, Assistant Professor, MA, Oakland City University, 2011  
Bolser, Elaina, Assistant Professor, MSN, Grand Canyon University, 2020  
Burris, Laura, Instructor, BSN, University of Southern Indiana, 2019  
Butler, Susan, Instructor, MSN, Western Governors University, 2020  
Chandler, Mark, Assistant Professor, AAS, Henderson Community College, 2011



Chappell, Michelle, Associate Professor, EdD, Morehead State University, 2020

Crick, Sarah, Associate Professor, MNE, University of Southern Indiana, 2015

Farber III, Fred, Assistant Professor, AAS, Henderson Community College, 2017

Furbush, Frank, Associate Professor, MS, Southern Connecticut College, 1982

Hammonds, Jeffrey, Instructor, PhD, Vanderbilt University, 2013

Humbert, Jaimie, Instructor, MFA, Savannah College of Art and Design, 2011

Hunt, Cathy, Professor, MS, University of Kentucky, 1980

Jones, Mei, Associate Professor, MS, University of Southern Indiana, 2006

Joy, Brian, Professor, MBA, National University, 2000

Joy, Lilia, Professor, MFA, Murray State University, 2015

Keen, Heather, Instructor, BSN, Liberty University, 2016

Knecht, Michael, Professor, MBA, Western Kentucky University, 1999

Maltby, Lorie, Professor, MA, Ohio University, 1983

Mattingly, Carole, Professor, DNP, Western Kentucky University, 2015

McGovern, Kimberly, Instructor, MSN, Western Kentucky University, 2019

Murray, Bridget, Professor, EdD, Oakland City University, 2017

Myers, Joanna, Instructor, MS, Morehead State University, 2017

Patsalides, Eugenios, Professor, MA, Western Kentucky University, 1997

Phelps, Barry, Associate Professor, MA, MIS, Morehead State University, 2016

Roberts, Bobbi, Instructor, MA, University of Southern Indiana, 2015

Smith, Mark, Assistant Professor, MBA, University of Southern Indiana, 1999

Taylor, Scott, Associate Professor, MA, Morehead State University, 2020

Wells, Rebecca, Professor, MS, Eastern Kentucky University, 1985

Winstead, Laura, Professor, EdD, The Southern Baptist Theological Seminary, 2020

Woods, Katherine, Instructor, MA, Murray State University, 2015

# Hopkinsville Community College

## Mission Statement/Status of Accreditation

Hopkinsville Community College leads in academic excellence by preparing students for transfer and the workforce, inspiring lifelong learning.

Hopkinsville Community College is a member of the Kentucky Community and Technical College System and is a public two-year degree granting institution.

Hopkinsville Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Hopkinsville Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C, A)
- Advanced Nursing Assistant (C)
- Air Conditioning Technology (C)
- Agriculture (C, D, A)
- Automotive Technology (C)
- Business Administration (C, D, A)
- Computer Aided Drafting and Design (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D)
- Construction Technology (C)
- Criminal Justice (C, A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Electrical Technology (C, D, A)
- Emergency Medical Services – Paramedic (C, A)
- Emergency Medical Technician (C)
- Engineering and Electronics Technology (C, D, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Science Technology (A)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Manufacturing Engineering Technology (C)
- Massage Therapy Technology (C)

- Medical Assisting (C, D, A)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C)
- Nursing (A)
- Pharmacy Technology (C, D)
- Physical Therapist Assistant (A)
- Practical Nursing (C, D)
- Radiography (A)
- Respiratory Care (A)
- Supply Chain Management (C)
- Surgical Technology (A)
- Telehealth Technician Associate (C)
- Welding Technology (C, D, A)

## Contact Information

### Hopkinsville Community College

720 North Drive, P.O. Box 2100  
Hopkinsville, KY 42241-2100  
(270) 707-3700 or toll free – (866) 534-2224  
[hopkinsville.kctcs.edu](http://hopkinsville.kctcs.edu) (<http://hopkinsville.kctcs.edu>)

### Fort Campbell Campus

English Army Education Center  
Room 135, 202 Bastogne Avenue  
Fort Campbell, KY 42223  
(270) 707-3950 or toll free – (866) 317-3950

## General Information

Office	Phone number
Adult Education Gary Dawson	(270) 707-3926
General Information	(270) 707-3700
Advising Center Deloria Scott	(270) 707-3820
Testing Center Martha Metcalfe	(270) 707-3826
Business Office Dana Warfield	1-855-22GO-HCC (1-855-224-6422) (270) 707-3729
Career and Transfer Services Kanya Allen	(270) 707-3827
Workforce Solutions Carol Kirves	(270) 707-3750
Disability Services Angel Prescott	(270) 707-3801
Distance Learning Support Sally Jackman	(270) 707-3903 (270) 707-3868
Financial Aid Janet Gunther Shoemaker	1-855-22GO-HCC (1-855-224-6422) (270) 707-3833
Human Resources Lisa Harbold	(270) 707-3728
Information Technology Joe Grace	(270) 707-3771 (270) 707-3825
International Student Services Angel Prescott	(270) 707-3801
Library Elysa Parks	(270) 707-3762

Public Relations and Marketing Rena Young	(270) 707-3732
Records/Registrar Tiffanie Witt	(270) 707-3811
Admissions/Rotary Scholars Jeremy Calico	(270) 707-3809
Dual Credit April Smith	(270) 707-3821
Transfer Information Liaison Kanya Allen	(270) 707-3827
Veterans Affairs Angie Goode	(270) 707-3952
Fort Campbell Campus Tara Roscoe	(270) 707-3958

## Administration

Position	Name
President/CEO	Dr. Alissa Young
Chief Academic Affairs Officer	Dr. Christopher Boyett
Chief Student Affairs Officer	Mrs. Angel Prescott
Chief Business Affairs Officer	Dr. Dale Leatherman
Chief of Community, Workforce and Economic Development	Mrs. Carol Kirves
Chief of Institutional Advancement	Mrs. Yvette Y. Eastham
Fort Campbell Campus Director	Ms. Tara Roscoe
Division of Allied Health	Dr. Elizabeth Beverly
Division of Liberal Arts & Social Sciences	Mrs. Julia Laffoon-Jackson
Division of Mathematics and Sciences	Mr. Pat Riley
Division of Nursing	Mrs. Joyce Lambruno
Division of Professional and Technical Studies	Mr. Robert Smith

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Alvey, Dennis, Instructor, Certification by experience  
 Arnold, Jason E, Professor, MS, Murray State University, 2008  
 Ausenbaugh, Yasamin, Assistant Professor, MA, Western Kentucky University, 2005  
 Beverly, Elizabeth A, Professor, EdD, Murray State University, 2019  
 Braxton-Brown, Justin Dale, Professor, MA, Ohio University, 2002  
 Brown, Elissa, Instructor, MSN, Capella University, 2021  
 Brunswick, George, Instructor, BS, Ohio Northern University, 1987  
 Burton, Elizabeth, Assistant Professor, MFA, Spalding University, 2017  
 Butler, Kadn, Instructor, AAS, Hopkinsville Community College, 2021  
 Carlisle II, Thomas T, Professor, MA, Murray State University, 1994  
 Casey, Kenneth Stewart, Professor, PhD, Vanderbilt University, 1991  
 Castile, Kayce, Instructor, BSN, Grand Canyon University, 2019  
 Cawood, Marketa Liska, Professor, MA, State University of New Jersey Rutgers, 2007  
 Cayton, Breonna, Instructor, BSN, Fayetteville State University, 2020  
 Chester, Caitlin, Assistant Professor, MA, Murray State University, 2010  
 Clemens, Kirsten, Instructor, MA, Duke University, 2009  
 Davis, John P, Associate Professor, PhD, University of Kentucky, 2012

Dossett, Holly, Assistant Professor, BSN, Belmont University, 2012  
 Dougherty, Melissa, Assistant Professor, MS, Miami University, 2016  
 Evans, Audrey D, Professor, EDS, Austin Peay State University, 1998  
 Folz, Julie, Assistant Professor, AAS, Hopkinsville Community College, 2008  
 Godwin, Norman, Instructor, MS, Murray State University, 2014  
 Jackman, Sarah F, Professor, MET, University of Texas at El Paso, 1992  
 James, Addison, Instructor, MA, Western Kentucky University, 2015  
 Laffoon-Jackson, Julia, Professor, MA, Western Kentucky University, 1981  
 Lambruno, Joyce, Professor, MSN, Murray State University, 2010  
 Lee, Jason, Associate Professor, MS, Murray State University, 2014  
 Lemons, Sherry L, Professor, MS, Austin Peay State University, 1994  
 McCormack, Sherry Lynn, Professor, MS, Murray State University, 2009  
 Meade, Beth, Associate Professor, DNP, University of Kentucky, 2017  
 Meador, Barbara W, Professor, MA, Austin Peay State University, 1978  
 Mitchell, Jamie, Instructor, Certification by experience  
 Murray, Cory James, Instructor, AAS, Hopkinsville Community College 2017 and 2019  
 Parks, Elysa, Inst/CC Lib Svc Dir, MAIS, University of Tennessee, Knoxville, 2018  
 Qualls, Amanda Jo, Instructor, MSN, Indiana Wesleyan University, 2021  
 Revelett, Rita Denise, Assistant Professor, MSN, Chamberlain College of Nursing, 2017  
 Riley, Patrick J, Professor, MA, University of Missouri, 1997  
 Schultz, Arthur Ray, Associate Professor, MS, Tennessee State University, 2009  
 Scott, Deloria A, Professor/CC Counselor, MS, Murray State University, 1996  
 Sharber, Karen Gwenn, Instructor, MSN, Western Kentucky University, 2015  
 Sims, Derek, Professor, MBA, Murray State University, 2011  
 Smith, Angela, Assistant Professor, AAS, Madisonville Community College, 2012  
 Smith, Robert William, Professor, MAE, Marian University, 2009  
 Stewart, Krista Lynne, Assistant Professor, MS, Murray State University, 2004  
 Thomas, Lois Diane, Assistant Professor, MBA, Murray State University, 1992  
 Thompson, Shari Rae, Instructor, MME, Murray State University, 1994  
 Towery, Nicole Renee, Assistant Professor, MAE, Murray State University, 2005  
 Vertal, Sherie, Instructor, BSN, Bethel University, 2019  
 Wallace, Kimberly, Instructor, MPA, Murray State University, 2007  
 Willett-Webb, Mariah, Instructor, MSN, Maryville University, 2017  
 Wood, Matthew John, Assistant Professor, MS, Old Dominion University, 2008  
 Worley, Brenda, Instructor, EdD, Northcentral University, 2019

# Jefferson Community and Technical College

## Mission Statement/Status of Accreditation

### Mission

Jefferson Community and Technical College transforms lives and communities through educational excellence in an inclusive environment that opens doors for all students.

### Values

**Academic Excellence.** We strive to excel in teaching, learning, and student support. We engage in ongoing professional development to learn, grow, and improve.

**Accessibility.** We minimize barriers and provide educational pathways to technical and career training, general education and transfer, workforce development, and lifelong learning. To meet the diverse needs of our students we offer certificates, diplomas, associate degrees, and non-credit programming.

**Collaboration.** We build alliances with adult education providers, secondary school systems, regional postsecondary institutions, community groups, and business and industry partners to create seamless educational experiences. We are responsive and adaptable to the evolving needs of our students and community.

**Continuous Improvement.** We gather, analyze, and assess data to make informed decisions that drive institutional improvement.

**Diversity.** We treasure the many identities and perspectives in our community. We provide an inclusive, accessible, and safe learning and working environment that fosters participation and belonging.

**Equity.** We emphasize policy and practice that promotes opportunity and diminishes disparity within the college community.

**Integrity.** We act ethically and maintain an environment that encourages honesty, transparency, and accountability.

**Respect.** We recognize the contributions and expertise of all members of the college community. We understand that education relies on human connections, and we value the dignity and wellbeing of all people.

**Stewardship.** We exercise responsible management of the college's fiscal and physical resources.

Jefferson Community and Technical College is a member of the Kentucky Community and Technical College System offering career/technical, transfer, and transitional educational opportunities with campuses and locations in Jefferson, Shelby, Carroll, Bullitt, Gallatin, Henry, Oldham, Owen, Spencer, and Trimble Counties.

Jefferson Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Jefferson Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C, D, A)
- Advanced Integrated Technology (C)
- African American Studies (C)
- Air Conditioning Technology (C, D)
- Applied Process Technologies (C, D, A)
- Apprenticeship Studies (A)
- Automotive Technology (C, D, A)
- Aviation Maintenance Technology (C, D, A)
- Business Administration (C, D, A)
- Computer Aided Design and Drafting (C, D)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D)
- Construction Technology (C, D)
- Cosmetology (C, D)
- Criminal Justice (A)
- Culinary Arts (C, A)
- Digital Printing Technology (C)
- Education (A)
- Electrical Technology (C)
- Emergency Medical Services – Paramedic (C, A)
- Emergency Medical Technician (C)
- Engineering and Electronics Technology (C, D, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Geospatial Technology (C)
- Global Studies (C)
- Health Information Technology (C, A)
- Health Science Technology (A)
- Human Services (C, A)
- Industrial Maintenance Technology (C, D, A)
- Insurance and Risk Management (C)
- Interdisciplinary Early Childhood Education (C, A)
- Mechatronics (C)
- Medical Administrative Services (C)
- Medical Assisting (C, D, A)
- Medical Information Technology (C, D)
- Medical Laboratory Technician (C, A)
- Multi-skilled Systems Technician (C)
- Nursing (A)
- Occupational Therapy Assistant (A)
- Pharmacy Technology (C, D)
- Physical Therapist Assistant (A)

- Plumbing Technology (C, D)
- Practical Nursing (C, D)
- Radiography (A)
- Respiratory Care (C, A)
- Surgical Technology (D, A)
- Teaching English to Speakers of Other Languages (TESOL) (C)
- Truck Driver Training (C)
- Unmanned Systems Technology (C)
- Visual Communication:
  - Communication Arts Technology (C, A)
- Welding Technology (C, D, A)

## Contact Information

### Jefferson Community & Technical College

109 E. Broadway  
Louisville, KY 40202  
(502) 213-5333  
jefferson.kctcs.edu (<http://jefferson.kctcs.edu>)

### Downtown Campus

109 East Broadway  
Louisville, KY 40202  
(502) 213-5333

### Southwest Campus

1000 Community College Drive  
Louisville, KY 40272  
(502) 213-5333

### Carrollton Campus

1607 Hwy 227  
Carrollton, KY 41008  
(502) 732-4846 or (800) 853-3887

### Jefferson Technical Campus

727 W. Chestnut Street  
Louisville, KY 40203  
(502) 213-5333

### Shelby County Campus

1361 Frankfort Road  
Shelbyville, KY 40065  
(502) 633-5524

### Bullitt County Campus

505 Buffalo Run Road  
Shepherdsville, KY 40165  
(866) 634-7418  
(502) 213-5333

### AMET BUILDING, Technical Bldg.

762 South 1st Street  
Louisville, KY 40202

## General Information

Office	Phone number
General Information	(502) 213-5333
Admissions	(502) 213-4000
Bursar's Office	1-855-2GO-JCTC (1-855-246-5282)
Business Office	(502) 213-2103

Disability Services	(502) 213-2449
Office of Diversity, Inclusion & Community Engagement (ODICE)	(502) 213-2171
Financial Aid	1-855-2GO-JCTC (1-855-246-5282)
Human Resources	(502) 213-2118
International Admissions	(502) 213-2496
Learning Commons (Library & Tutoring) - Downtown	(502) 213-2154
Marketing and Communications	(502) 213-2400
Records	(502) 213-4000
Transfer Information Liaison	(502) 213-4000
Veterans Affairs	(502) 213-2139

## Administration

Position	Name
President	Dr. Ty Handy
Vice President for Academic Affairs	Dr. Reneau Waggoner
Vice President for Student Affairs	Dr. Laura Smith
Vice President of Administration and Chief Financial Officer	Gary Dryden, Jr.
Vice President of College Advancement, Planning and Research	Don Schieman
Associate Vice President of Academic Affairs General Education and Transfer	Dr. Randall Davis
Associate Vice President of Academic Initiatives	Dr. Andrew (Drew) Wilkerson
Associate Vice President of Academic Affairs Technical Education	Dr. Telly Sellars
Dean of System Initiatives	Vincent DiNoto, Jr.
Site Director/Assistant Professor-Carrollton Campus	Heather Yocum
Site Director – Bullitt Campus	Kim Boggs
Site Director – Shelby Campus	Dr. Michael Shell
Site Director – Southwest Campus	Jessica Duff
Assistant Vice President, Human Resources	Toni E. Whalen
Assistant Vice President, Student Affairs (Diversity, Inclusion and Community Engagement)	Tamara Russell
Assistant Vice President, Workforce Solutions	Dr. Nikki Cobb
Director of Institutional Effectiveness	Dr. Brittany Inge
Dean of Arts and Humanities (Division Chair)	Susan Lee
Dean of English Department (Division Chair)	Jill Adams
Dean of Business and Advanced Technology (Division Chair)	Dr. Bruce Jost
Dean of Social and Behavioral Sciences (Division Chair)	Leonard Thomas



Dean of Allied Health (Division Chair)	Kara Schotter
Dean of the Learning Commons (Library & Tutoring)	Sheree Williams
Dean of Manufacturing (Division Chair)	Mark Wright
Dean of Mathematics (Division Chair)	Brandon Bartley
Dean of Natural Science (Division Chair)	Jami Leckie
Dean of Nursing (Division Chair)	Dr. Kelli Selvage
Dean of Trade and Industry (Division Chair)	Grant Gamble

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Ackerman, Jennifer, Professor, MA, University of Louisville, 1993  
 Adams, James, Associate Professor, MHA, University of Phoenix, 2007  
 Adams, Jill, Professor, MA, East Carolina University, 1998  
 Albertson, Stephanie, Assistant Professor, PhD, University of Delaware, 2009  
 Alcorn, Shanan, Instructor, BSN, University of Louisville, 2006  
 Allen, Jevonne, Instructor, MA, Ashland University of Ohio 2006  
 Allen, Susan, Assistant Professor, MA, University of Louisville, 1999  
 Alpiger, Herbert H, Instructor, Licensed Airframe/Powerplant Mechanic  
 Angelini, Melinda Maria, Instructor, LPN, National Certification of Surgical Technologists  
 Armstrong, Kristy M, Instructor, AA, Spencerian College, 2004  
 Arslanian, Samuel T, Instructor, MS, University of Maine, 1998  
 Austin, Marlisa R, Professor, MA, Union College, 1999  
 Avdagic, Stephanie Lauren, Instructor, MS, Bellarmine University, 2020  
 Bartley, Brandon, Professor, MS, Virginia Tech, 2003  
 Betts, Autumn, Professor, MSW, Southern Baptist Theological Seminary, 1996  
 Boswell, Melanie A, Professor, MS, Florida State University, 2000  
 Boyd, Lisbeth, Associate Professor, MS, Murray State University, 2008  
 Breeding, Bruce, Instructor, PhD, University of Georgia, 2003  
 Bryan, Alexandra, Assistant Professor, MA, Western Kentucky University, May 2008  
 Buckler, Michael, Associate Professor, MA, University of Louisville, 1996  
 Buckner, Alex, Instructor, JCTC, Licensed Airframe/Powerplant Mechanic, May 2008  
 Butler, Casandra M, Associate Professor, AAS, Jefferson Community and Technical College, 2013  
 Cartwright, Andrea, Professor, MA, University of Louisville, 2006  
 Chapman-Fitzsimmons, Sebrena, Instructor, MS, Bellarmine University 2007  
 Clemens, Matthew, Instructor, AA, Jefferson Community and Technical College, 2015  
 Couch, Kristi, Assistant Professor, BS, Indiana University, 2000  
 Cramer, Kiana M, Instructor, BA, University of Louisville, 2019  
 Crawford III, Fred, Instructor, MS, University of Louisville, 1979  
 Crowder-Johnson, Cathy Y, Instructor, BA, Mid-Continental University, 2012  
 Cummings, Deloris J, Associate Professor, DPT, University of Montana, 2012  
 Cummings, Marc L, Associate Professor, MEd, University of Louisville, 1976

Cunningham, Zachary W, Instructor, MFA, Murray State University, 2014  
 Daley, Amanda, Assistant Professor, MA, University of Louisville, 2010  
 Davis, Randall J, Professor, PhD, University of Wisconsin-Milwaukee, 1989  
 Dearing, Laura A, Professor, MFA, University of Memphis, 1998  
 DiNoto Jr, Vincent A, Professor, MA, Indiana State University, 1979  
 DiPaola, Stephen, Professor, BS, Johnson & Wales University, 1994  
 Dixon, Shaun, Assistant Professor, MA, University of Louisville, 2013  
 Edgar, Brenda, Associate Professor, MA, University of Pittsburgh, 1997  
 Eichas, Renee, Instructor, MS, Grand Canyon University, 2019  
 Eichholtz, Lisa A, Associate Professor, MLS, Syracuse University, 1992  
 Ellis, Tiane, Assistant Professor, MA, Fayetteville State University, 2014  
 Elmes, Brandon, Associate Professor, MA, University of Louisville, 2015  
 Estes, Michael, Associate Professor, MFA, University of Notre Dame, 2005  
 Fife, Gene, Instructor, AA, Electrical Engineering, University of Louisville, 1978  
 Fillmore, Lauren Harold, Instructor, AA, Aviation Maintenance Technology, Pittsburgh Institute of Technology, 1973  
 Fischer, Karyl Anne, Assistant Professor, MA, Spalding University, 2016  
 Frame, Stephen, Assistant Professor, AAS, Santa Fe College, 2004  
 Florence, Anissa R, Associate Professor, MA, University of Louisville, 2001  
 Florence, Paul A, Professor, MS, University of Louisville, 1995  
 Galyon, Maria, Professor, MBA, Morehead State University, 1993  
 Gamble, Courtney R, Instructor, BS, University of Louisville, 2017  
 Gamble, Grant, Associate Professor, BST, Pittsburg State University, 1995  
 Garrison, Trende Marc, Assistant Professor, PhD, University of Kentucky, 2015  
 George, Leslie Kistner, Instructor, MA, University of Louisville, 2013  
 Gibson, Maureen, Professor, MA, Western Kentucky University, 1990  
 Gilbert, Lindsay D, KCTCS, Welding Technology, 2017  
 Gittings, Jennie M, Associate Professor, MSN, University of Louisville, 1992  
 Goggin, Jeremy David, Instructor, KCTCS, AAS, Industrial Maintenance Technology, 2014  
 Gonzalez, Orlando, Associate Professor, MS, University of Cincinnati, 2001  
 Gully, Zahara, Instructor, MS, University of Louisville, 2018  
 Gummer, Rhonda D, Professor, MSW, University of Louisville, 2002  
 Hamby, Mary Ellen, Instructor, BS, University of Cincinnati, 2017  
 Handel, Jr, Kenneth, Instructor, AAS, Ivy Tech, 1992  
 Hanson, Richard H, Associate Professor, PhD, University of Kentucky, 1996  
 Hatfield, Todd, Associate Professor, 20 years teaching experience, 25 years occupational experience  
 Hitron, Brittany S, Instructor, BS, Northern Kentucky University, 2015  
 Horsley, Stephanie, Instructor, BS, Indiana University Southeast, 2018  
 Howard, Chad, Professor, MS, University of Kentucky, 2003  
 Hudgins, Kelly Michael, Instructor, Journeyman Refrigeration and HVAC, 2017  
 Huskey, Patricia, Instructor, MS, Indiana Wesleyan University, 2010  
 Inge, Grant, Instructor, Mini University, Level I Auto Tech Mechanic  
 Jackson, Mary B, Professor, MA, Western Kentucky University, 1990  
 Jacob, Sherry E, Associate Professor, MBA, Webster University, 2002  
 Jett, Cassandra, MS, Library Science, University of Kentucky, 2018  
 Johnson, Gerald R, Professor, MS, Eastern Kentucky University, 1989  
 Johnson, Rafe A, Professor/Librarian I, MSLS, University of Kentucky, 1990  
 Jost, Bruce P, Professor, PhD, University of Louisville, 2008  
 Karim, MD, Jahurul, Professor, PhD, University of Liverpool, 1988  
 Keffer, Mary Beth, Assistant Professor, MS, Grand Canyon University, 2018  
 King, Dallas, Assistant Professor, AMT, Somerset Community College, 1996  
 Kolter, Virginia L, Instructor, MSN, University of Louisville, 2004



- Kwon, Andrew Haeson, Assistant Professor, PhD, University of Oklahoma, 2015
- Knight, Kyndra, Assistant Professor, MA, Saybrook University, 2013
- Kutnicki, Faith H, Associate Professor, MS, University of Kentucky, 1972
- Langness, Betsy, Professor, MEd, University of Louisville, 1995
- Larkin, Pamela B, Professor, PhD, University of Louisville, 2019
- Leasor, James, Assistant Professor, AAS, Elizabethtown Community and Technical College, 2015
- Leonard, Mona F, Professor, MA, Howard University, 1989
- Lee, Susan, Associate Professor, PhD, St. Louis University, 2017
- Leckie, Jamie, Assistant Professor, PhD, University of Louisville, 2008
- Leslie, Tony, Assistant Professor, MEd, Western Kentucky University, 1989
- Lichtsteiner, Joshua, Associate Professor, Assistant Professor, Trade Schools
- Liebert, Amy, Assistant Professor, MA, San Francisco State University, 2009
- Limeberry, John W, Associate Professor, MA, Ball State University, 1989
- Long, John P, Professor, MS, University of Kentucky, 1988
- Lotz, Anne, Professor, MA, Kent State University, 1999
- Lovett, Patricia Ann, Assistant Professor, MA, Murray State, 2009
- Lutz, Terry W, Professor, MFA, University of Kentucky, 1984
- Lyalina, Victoria, Associate Professor, MA, University of Louisville, 2000
- Lynch, Katie, Assistant Professor, PhD, University of Louisville, 2016
- Mahan, Kyle, Assistant Professor, Licensed Respiratory Therapist
- Mangum, David, Associate Professor, MA, Murray State University, 2006
- Martin, Dan, Assistant Professor, MA, University of Louisville, 2016
- Martinez, Ad'Lynn Leigh, Instructor, MS, University of Tennessee, 2006
- Matheny, Meg, Professor, MA, University of Kentucky, 1999
- Mattingly, Diane, Associate Professor, MA, Western Kentucky University, 2011
- McKinley, Dallas, Instructor, RN, Kentucky State University 1997
- Miles-Collier, Felicia Ann, Instructor, BA, RHIT Certification, Ashley University, 2016
- Miller, Amanda, Instructor, BSN, McKendree University, 2015
- Miller, Darla Faye, Associate Professor, MEd, University of Louisville, 2004
- Miller, Donna R, Assistant Professor, MA, University of Louisville, 2007
- Mohr, April L, Professor, MA, Florida Atlantic University, 1990
- Mooradian, Paula Hicks, Assistant Professor, MS, Georgian Southern, 2017
- Morris, Nicholas, Instructor, AAS, Jefferson Community & Technical College, 2022
- Motes, John B, Professor, MFA, University of Tennessee, 1989
- Muller, Kaya, Professor, MS, Purdue University, 1999
- Nance, Robert D, Instructor, AAS, Jefferson Community and Technical College, 2007
- Norfleet, Ronn, Associate Professor, MDiv, Southern Baptist Theological Seminary, 1989
- Northcutt, Ronald, Instructor, AS, Vincennes University, 1983
- O'Brien, Nicholas B, Instructor, AAS, Jefferson Community and Technical College
- Pack, Don, Professor, EdD, University of Louisville, 1999
- Pellegrino, Lauren, Assistant Professor, PhD, North Carolina State, 2018
- Peters, Jane, Professor, PhD, University of Kentucky, 2005
- Pillitteri, Gerald J, Assistant Professor, AAS, Jefferson Community & Technical College, 2012
- Pitchford, Jennifer, Associate Professor, BS, University of Evansville, 1997
- Poe, Matthew David, Instructor, AS, Pharmacy, PTCB National Certification, 2009
- Prather, Mark C, Associate Professor, BA, Indiana University, 1989
- Pruett, Stephen R, Professor, PhD, University of Louisville, 1997
- Puckett, Kalanta Michelle, Instructor, BS, Indiana Wesleyan University, 2017
- Rasras, Awad R, Associate Professor, MA, University of Kansas, 1985
- Reisner, Caroline, Professor, MS, Eastern Kentucky University, 2007
- Repper, Frank, Associate Professor, MM, Eastern Kentucky University, 1983
- Rhode, Bradley, Instructor, BS, Eastern Kentucky University, 2019
- Richard, Amanda, Associate Professor, MS, Texas A&M, 2011
- Riedel, Donna D, Associate Professor, MS, University of Massachusetts, 1987
- Riedling, Robert L, Professor, MS, University of Louisville, 1997
- Riggs, William, Instructor, Fiat Chrysler Training Institute, 2016
- Robertson, Else, Professor, MA, Spalding University, 1983
- Rodski, Peter A, Professor, MS, Eastern Kentucky University, 1992
- Rudolph, Sonia R, Associate Professor, MSN, Spalding University, 2003
- Savells, Constance, Instructor, MPH, Ohio State University, 2003
- Schotter, Kara, PhD, Morehead State, 2022
- Scott, Chad, Instructor, Instructor, Emergency Med Tech, Licensed
- Selvage, Kelli, Associate Professor, PhD, William Carey University, 2021
- Sellars, Telly R, Professor, EdD, Spalding University, 2006
- Shellhart, Kimberly, Instructor, BSN, Kaplan University, 2011
- Shuck, Dylan Lee, Instructor, KCTCS, AA, CNN Machining, 2021
- Smithy, Pamela, Professor, MS, Quinnipiac University, 2011
- Snook, Stephen, Assistant Professor, AAS, Jefferson Community and Technical College, 2014
- Stewart, Amelia, Professor, PhD, Ohio University, 1987
- Stewart, James H, Associate Professor, MS, Western Kentucky University, 1991
- Taylor, Stacy, Professor, MA, University of Louisville, 1999
- Thomas, Leonard, Associate Professor, MA, University of Louisville, 2010
- Thurman, Kathryn Marie, Instructor, BS, Northern Kentucky University, 2021
- Tiller, Donald, Instructor, 32 years experience in industry
- Tomei Jr, Dontae A, Associate Professor, MA Eastern Illinois University, 1996
- Tran, Linh T, Professor, MS, Western Kentucky University, 2004
- Vogel, David M, Associate Professor, PhD, University of Louisville, 2002
- Waggoner, Reneau, Professor, EdD, University of Kentucky, 2016
- Ward, John, Associate Professor, MBA, University of Louisville, 2000
- Wechter, Bree, Professor, MA, Eastern Illinois University, 2002
- Wheat, Valerie J, Associate Professor, PhD, University of Cincinnati College of Medicine, 2001
- White, George Maurice, Instructor, EdD, Eastern Kentucky University, 2018
- White-Weibel, Leslie, Instructor, MSN, Indiana Wesleyan, 2010
- Wilburn, Mark S, Professor, PhD, Ohio University, 1987
- Will, Michael Anthony Jr, Instructor, AAS, EMT, Eastern Kentucky University, 1995
- Williams, Sheree Huber, Professor, MSLS, University of Kentucky, 1981
- Wright, Elizabeth S, Instructor, MS, Indiana Wesleyan University, 2019
- Wright, Mark, Professor, MEng, University of Louisville, 1992
- Yahya, Erica Farnaz, Assistant Professor, PsyD, Ashford University, 2019
- Yedinak, April, Instructor, BS, Galen College of Nursing, 2021
- Yocum, Heather L, Associate Professor, MA, Northern Kentucky University, 2010
- Young, Loretta, Instructor, Diploma, Surgical Technologist, Jefferson Community and Technical College, 2002
- Young, Tiffany, Assistant Professor, DA, Murray State University, 2020
- Zimlich, Jessica, Instructor, MS, Nursing, Capella University, 2017

## Correctional Sites

Green River<sup>1</sup>

Piper, Sherry A, Professor, MA, Western Kentucky University, 1998

Eddyville (KSP)<sup>1</sup>

Renn, Robert D, Instructor, MS, University of Kentucky, 1986

LaGrange (KSR)<sup>1</sup>

Bledsoe, Marsha C, Professor, MAT, University of Louisville, 1997

Luther Lockett<sup>1</sup>

Pewee Valley (KCIW)<sup>1</sup>

West Kentucky<sup>1</sup>

Herring, Steven M, Associate Professor, MS, Murray State University, 1999

<sup>1</sup> Note: HB 164 passed during the 2010 Kentucky General Assembly transferred management oversight and responsibility for Corrections Education programs to the Department of Corrections, effective July 1, 2010. Some faculty listed could have elected to transfer to the Department of Corrections.

# Madisonville Community College

## Mission Statement/Status of Accreditation

**Mission:** To advance an enduring and enthusiastic commitment to student-centered learning and achievement.

In support of our mission and as a public comprehensive community college and member of the Kentucky Community and Technical College System, Madisonville Community College will:

- offer two-year associate degree curricula transferable to all colleges and universities in Kentucky;
- offer two-year associate of applied science, career-oriented technical degree curricula for immediate employment;
- offer diploma and certificate level programs, not intended for transfer, but designed to meet the changing needs of business and industry;
- provide flexible customized training opportunities for area employers;
- provide adult literacy services;
- provide non-credit personal enrichment programming; and
- provide arts appreciation and arts education opportunities.

The mission statement derives from an institution-wide commitment to these values:

- Shared responsibility for learning between student and teacher
- Mutual respect and open communication
- Open inquiry and data-based decision making
- Effective collaboration and teamwork
- Flexibility, adaptability, and availability
- Professional behavior and personal effectiveness
- Community service and responsiveness
- Continuous improvement
- Diversity in all its dimensions
- Sustainability
- Life-long learning
- Productive community partnerships

Madisonville Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Madisonville Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Advanced Integrated Technology (C, A)
- Agriculture (C, D, A)
- Air Conditioning Technology (C, D, A)
- Automotive Technology (C)
- Aviation Maintenance Technology (C, D, A)
- Biomedical Technology Systems (A, C)
- Business Administration (C, D, A)
- Certified Medical Technician (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (A)
- Criminal Justice (C, A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Electrical Technology (C, D, A)
- Emergency Medical Services – Paramedic (C, A)
- Engineering Related – Project Lead the Way (PLTW) (C)
- Fermentation Science (C, A)
- Fire Science Technology (C, D, A)
- Fixed Wing Flight Training (C, A)
- Health Science Technology (A)
- Helicopter Flight Training (C, A)
- Human Services (C, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C, D, A)
- Mining Technology (C, A)
- Nursing Integrated (C, D, A)
- Occupational Therapy Assistant (A)
- Paralegal Technology (C, A)
- Physical Therapist Assistant (A)
- Radiography (C, A)
- Respiratory Care (C, A)
- Supply Chain Management (C)
- Surgical First Assisting (C, A)
- Surgical Technology (C, D, A)
- Truck Driving Training (C)
- Unmanned Systems Technology (C)
- Welding Technology (C, D, A)

## Contact Information

### Madisonville Community College

2000 College Drive  
Madisonville, KY 42431  
(270) 821-2250 Fax (270) 824-1866  
[madisonville.kctcs.edu](http://madisonville.kctcs.edu) (<http://madisonville.kctcs.edu>)

### Health Sciences Campus

750 N Laffoon Street  
Madisonville, KY 42431  
(270) 824-1751

### ACE2 and Assessment Center

2000 College Drive  
Madisonville, KY 42431  
ACE2 (270) 824-1821

Assessment Center (270) 824-1702

### Muhlenberg Campus

406 W Everly Brothers Boulevard  
Central City, KY 42330  
(270) 757-9881

### Glema Mahr Center for the Arts

2000 College Drive  
Madisonville, KY 42431  
(270) 821-ARTS

## General Information

Office	Phone number
General Information	(270) 821-2250
Admissions	(270) 824-8643
Business Office	1-855-55GO-MCC (1-855-554-6622)
Workforce Solutions	(270) 824-8659
Continuing Education	(270) 824-8660
Disability Services	(270) 824-1708
Financial Aid	1-855-55GO-MCC (1-855-544-6622)
Human Resources	(270) 824-8649
Library	(270) 824-1722
Public Relations	(270) 824-8581
Records and Registrar	(270) 824-8575
Veterans Affairs	(270) 824-1708
Website	<a href="http://madisonville.kctcs.edu">http://madisonville.kctcs.edu</a>

## Administration

Position	Name
President	Dr. Cynthia S. Kelley
Provost	Dr. Sidney Hill
VP, Quality Assurance & Administration	Dr. Jonathan V. Parrent
Chief Business Affairs Officer	E. Ray Gillaspie
Workforce Solutions	Michael A. Davenport
Grants, Planning, and Effectiveness	David A. Schuermer
Institutional Advancement	Raegina D. Scott
Director, Human Resources	Kim Jones
Public Relations Coordinator	Emily Ray
Associate Dean of Health Sciences	Dr. Marsha D. Woodall
Division of Applied Technologies	Matthew S. Luckett
Division of Arts & Humanities	Chandy Melton
Division of Allied Health	Tonia R. Gibson
Division of Mathematics and Sciences	Dr. Aseem Talukdar
Division of Social and Behavioral Sciences	Natalie F. Cooper

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Adams, Sara Lyn Balduf, Professor, PhD, Florida State University, 2008  
Allen, Barton E, Assistant Professor, BS, Western Kentucky University, 2002

Allen, Clarissa E, Professor, DA, Murray State University, 2019  
Allen, E Shannon, Professor, MSN, University of Kentucky, 2001  
Arnold, Kellie, Instructor, MS, Murray State University, 2002  
Bailey Archila, Amberly Brooke, Associate Professor, MA, Murray State University, 2009  
Bennett, Tate R, Professor, MS, West Virginia University, 1989  
Bidwell, Jeffrey L, Professor, MA, Murray State University, 1999  
Brooks, Scottie M, Instructor, AS, Brown Mackie College, 2005  
Brumfield, Christopher S, Instructor, Russellville Vocational Schools, 1985  
Burton, Misty, V, Associate Professor, MA, Western Kentucky University, 2019  
Clayton, Wendy Dail, Professor, MSN, Western Kentucky University, 2008  
Cook, Ava M, Professor, MSN, Northern Kentucky University, 2014  
Cooper, Natalie F, Professor, MS, Murray State University, 1998  
Cunningham, Chester M, Professor, MBA, Murray State University, 1998  
Davis, Reid A, Professor, BS, Western Kentucky University, 1999  
Davis, Sharon D, Professor, MA, University of Kentucky, 1993, MS, Western Kentucky University, 2020  
Davis, Timothy F, Professor, MS, Murray State University, 2013  
Deal, Andrea L, Professor, MS, MAE, MA, PhD, University of Kentucky, 2019  
Deal, Robert Michael, Professor, MS, Western Kentucky University, 2017  
Duncan, April M, Assistant Professor, BS, Western Kentucky University, 2012  
Edens, Kellie Brooke, Professor, DNP, Eastern Kentucky University, 2017  
Elder, Loretta J, Professor, DNP, Eastern Kentucky University, 2016  
Florea, Jeffrey M, Professor, MS, Murray State University, 2000  
Florea, Katrina M, Associate Professor, MS, Murray State University, 1999  
Fouse, Patricia T, Associate Professor, MA, Murray State University, 2007  
Fugate, Sharon J, Professor, MS, Morehead State University, 1990  
Garritty, Savanna C, Professor, MPA, Murray State University, 2008  
Gibson, Tonia R, Professor, MS, Murray State University, 2008  
Gooch, Joe T, Professor, MA, University of Indiana, 1966  
Gorton, Colin M, Instructor, BS, Middle Tennessee State University, 2021  
Grace, April M, Professor, MAE, Western Kentucky University, 2005  
Griffis, Katie L, Professor, MA, Eastern Illinois University, 2007  
Hannan, Evan C, Assistant Professor, MS, Murray State University, 2019  
Hawkins, E Kay, Instructor, MA, Northern Kentucky University, 2011  
Hayes, Kelly A, Professor, MS, Murray State University, 2014  
Hendrix, Stephen, Instructor, BS, Murray State University, 2016  
Hernandez-Stevenson, Brittney, Associate Professor, MS, Murray State University, 2013  
Hewell, Sherry D, Professor, MEd, University of Louisville, 1993  
Hill, Clarissa Rana, Professor, MS, Murray State University, 2007  
Hughes, Eric W, Instructor, PhD, Middle Tennessee State University, 2021  
Johnson, Felecia K, Professor, MA, Murray State University, 1987  
Jones, Joey R, Professor, MS, Murray State University, 2012  
Jones, Sara Jane, Professor, DNP, Eastern Kentucky University, 2016  
Kapley, Noah W, Instructor, MS, Western Kentucky University, 2021  
Lamm, Katie J, Instructor, MBA, Embry-Riddle Aeronautical University, 2019  
Latham, Dawn L, Associate Professor, MSN, Western Kentucky University, 2015  
Lear, Elyssa Gayle, Professor, MS, Western Kentucky University, 2001  
Lear, Tracie D, Professor, MSN, Northern Kentucky University, 2014  
Lewis, Harry R, Professor, MS, University of Evansville, 1986  
Lilly, Charles A, Instructor, BS, Austin Peay State University, 2012  
Littlehale, Tracy, Professor, DNP, Eastern Kentucky University, May 2020  
Luckett, Matthew S, Professor, MS, Western Kentucky University, 2017  
Lutz, Rebecca Faith, Professor, DNP, Northern Kentucky University, 2017  
Manu, Joseph Y, Lecturer, MD, University of Science and Technology-Kumasi, 2019

Markwell, Greshin M, Associate Professor, DNP, Eastern Kentucky University, 2020

Melton, Chandy D, Associate Professor, MAR, MRE, MA, Murray State University, 2000

Menser, Nadine Joy, Professor, PhD, Western Kentucky University, 2015

Mitchell, Judith A, Associate Professor, MSN, Western Kentucky University, 2015

Moore, John B, Instructor, AAS, Madisonville Community College, 2006

Morgan, Jeffrey G, Instructor, Kentucky Master HVAC, 2021

Morris, Aaron D, Assistant Professor, AAS, Madisonville Community College, 2011

Parker, Kenneth R, Lecturer, MS, University of Arkansas, 2020

Peyton, Sarah R, Professor, MSN, Murray State University, 2011

Qualls, Mary Kim, Professor, DOT, Eastern Kentucky University, 2016

Richmond, Camille E, Associate Professor/Librarian II, MLIS, Louisiana State University, 1991

Schnapf, Barbara A, Associate Professor, MS, MS, University of Evansville, 1997

Schnorr, Lauren, Instructor, MS, Austin Peay University, 2017

Shaw, Krista, Instructor, MFA, Reinhardt University, 2018

Shifflett, George M, Professor, PhD, University of Virginia, 1989

Shock II, John P, Instructor, Grosse Point South High, 1968

Siddon, Tina M, Professor, MS, Murray State University, 2014

Skeen, Amanda F, Associate Professor, MPT, University of Evansville, 2003

Smith, Ashley L, Instructor, MA, Campbellsville University, 2020

Summers, Lauren K, Assistant Professor, MS, Austin Peay University, 2017

Survant, Steven D, Instructor, AAS, Madisonville Community College, 2017

Talukdar, Aseem, Professor, PhD, University of Cincinnati, 2008

Taylor, Stephanie A, Professor, MAE, Western Kentucky University, 2013

Welch, Jennifer R, Associate Professor, MA, MS Western Kentucky University, 2009

Wells, Roy, Assistant Professor, AAS, University of Kentucky, 1984

Werner, Mary B, Professor, PhD, Northern Illinois University, 1996

West, Robin R, Associate Professor, PhD, Indiana State University, 2008

Woodall, Marsha Dianne, Professor, DNP, Eastern Kentucky University, 2016



# Maysville Community and Technical College

## Mission Statement/Status of Accreditation

Maysville Community and Technical College (MCTC) challenges learners to accomplish their educational, career, and personal development goals.

### Goals of the College

1. Provide arts and science courses and associate degrees for transfer to baccalaureate institutions.
2. Offer technical degrees, diplomas, certificates, and courses for employment and career advancement.
3. Provide transitional and adult education offerings.
4. Deliver workforce training and services to support individual, community, and economic development.
5. Provide academic and student support to enhance student learning.

Maysville Community and Technical College, a member of the Kentucky Community and Technical College System, is a public two-year degree granting institution responding to and serving the needs of communities in the northeastern Kentucky region.

Maysville Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Maysville Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C, D, A)
- Advanced Integrated Technology (C)
- Advanced Nursing Assistant (C)
- Air Conditioning Technology (C, D)
- Applied Process Technologies (C)
- Automotive Technology (C, D)
- Aviation Maintenance Technology (C, D, A)
- Business Administration (C, D, A)
- Computer Aided Drafting & Design (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Construction Technology (C, D)
- Criminal Justice (C, A)

- Culinary Arts (C, A)
- Diesel Technology (C, D)
- Education (A)
- Electrical Technology (C, D)
- Emergency Medical Services – Paramedic (C)
- Emergency Medical Technician (C)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Science Technology (A)
- Human Services (C, A)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Medical Assisting (C, D)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C, A)
- Nursing (A)
- Plumbing Technology (C)
- Practical Nursing (C, D)
- Respiratory Care (A)
- Unmanned Systems Technology (C)
- Welding Technology (C, D)
- Workplace Safety Specialist (C)

## Contact Information

### Maysville Campus

1755 US Hwy 68  
Maysville, KY 41056  
(606) 759-7141  
[maysville.kctcs.edu](http://maysville.kctcs.edu) (<http://maysville.kctcs.edu>)

### Rowan Campus

400 Rocky Adkins Tech Drive  
Morehead, KY 40351  
(606) 783-1538  
[maysville.kctcs.edu](http://maysville.kctcs.edu) (<http://maysville.kctcs.edu>)

### Licking Valley Campus

319 Webster Avenue  
Cynthiana, KY 41031  
(859) 234-8626  
[maysville.kctcs.edu](http://maysville.kctcs.edu) (<http://maysville.kctcs.edu>)

### Montgomery Campus

201 Calk Avenue  
Mt. Sterling, KY 40353  
[maysville.kctcs.edu](http://maysville.kctcs.edu) (<http://maysville.kctcs.edu>)

### Maysville Campus

Office	Phone number
General Information	(606) 759-7141
Admissions	Ext. 66185
Business Office	1-855-GO-9MCTC (1-855-469-6282) Ext. 66158
Workforce Solutions	Ext. 66120
Continuing Education	Ext. 66120
Disability Services	Ext. 66319



Financial Aid	1-855-GO-9MCTC (1-855-469-6282) Ext. 66404
Human Resources	Ext. 66119
Library	Ext. 66206
Public Relations	Ext. 66247
Records	Ext. 66184
Transfer Information Liaison	Ext. 66148
Veterans Affairs	Ext. 66191
Website	<a href="http://maysville.kctcs.edu">http://maysville.kctcs.edu</a>

## Rowan Campus

Office	Phone number
General Information	(606) 783-1538
Admissions	Ext. 66362
Business Office	1-855-GO-9MCTC (1-855-469-6282)
Financial Aid	1-855-GO-9MCTC (1-855-469-6282)
Human Resources	Ext. 66310
Library	Ext. 66366
Records	Ext. 66314
Workforce Solutions	Ext. 66365
Website	<a href="http://maysville.kctcs.edu">http://maysville.kctcs.edu</a>

## Licking Valley Campus

Office	Phone number
General Information	(859) 234-8626
Admissions	Ext. 66436
Business Office	1-855-GO-9MCTC (1-855-469-6282)
Financial Aid	1-855-GO-9MCTC (1-855-469-6282)
Library	Ext. 66417
Records	Ext. 66405
Workforce Solutions	Ext. 66419
Website	<a href="http://maysville.kctcs.edu">http://maysville.kctcs.edu</a>

## Administration

Position	Name
President/CEO	Dr. Laura McCullough
Provost	Thomas Ware, EdD
Chief Finance Officer	Barbara Campbell
Chief Operations Officer	Russ Ward
Chief Officer of Enrollment & Student Services	Jessica Kern
Licking Valley Campus Director	Lori Gaunce
Montgomery Campus Director	Rebecca Morton
Rowan Campus Director	Shanley Click
Director, Institutional Advancement	Cara Clarke
Director, Marketing and Public Relations	Brady Shultz
Division of Industrial Technologies	Vacant
Division of Liberal Arts and Education	Melinda Walker
Division of Math, and Natural Science	Angela Fultz, PhD
Associate Dean of Health Sciences	Ginger Clarke

Division of Business and Related Technologies	Natasha Maddox
Coordinator, Distance Learning	Hannah Thornton
Coordinator, Dual Credit	Emily Thurman
Associate Dean, Institutional Planning, Research, and Effectiveness	Pam Stafford
Associate Dean, Academic Support Services; Transfer Coordinator; Maysville Campus Director	Dana Calland, EdD
Director, Adult Education/College Preparation	Sherry Stacy
Director, Cultural Diversity	Millicent Harding
Director, Financial Aid	Sandy Power
Director, Human Resources	Amanda Conley
Director, Information Technology	Brett Cable
Director, Library Services	Sonja Eads
Director, Workforce Solutions	Lenora Kinney
Registrar	Lori Gaunce

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Adler, Jennifer, Associate Professor, MS, Eastern Kentucky University, 2010

Applegate, Trevor, Instructor, BS, Morehead State University, 2016

Barnett, Kelly, Assistant Professor, AAS, Maysville Community College, 2012

Barnett, Kenneth, Associate Professor, BS, Morehead State University, 2004

Bishop, Melissa, Assistant Professor, MA, Morehead State University, 2016

Boyd, Tony, Professor, MA, Morehead State University, 1989

Burns, Tammy B, Assistant Professor, AAS, Maysville Community College, 1988

Butler, Deanna J, Associate Professor, AAS, Morehead State University, 1981

Calland, Dana J Taylor, Professor, Ed.D, Grambling State University, 2007

Chapman, Brandi, Instructor

Curtis, Tina, Assistant Professor, MA, Northern Kentucky University, 2009

Dement, Elizabeth, Instructor, MS, Morehead State University, 2016

Donovan, Lauren, Instructor, BS, Northern Kentucky University, 2012

Eads, Sonja R, Professor/Librarian I, MLS, University of Kentucky, 1985

Fizer, Hannah, Instructor

Flora, Charlene, Associate Professor, BA, University of Tennessee, 2010

Franz, Kyle, Instructor, MA, University of Kentucky, 2018

Fultz, Angela, Professor, PhD, University of Kentucky, 1996

Garner, Jennifer, Instructor, BSN, Morehead State University, 2015

Graves, Robert L, Professor, MS, Morehead State University, 1992

Greenfield, Dawn, Instructor, BSN, Indiana Wesleyan University, 2014

Hamm, Robert G, Professor, BS, Morehead State University, 1985

Hatton, David, Associate Professor, AAS, Maysville Community and Technical College, 2015

Hawkins, Adam, Associate Professor, BS, Morehead State University, 2010

Hilterbrand, Daphne, Instructor

Hyrca, Alexander L, Professor, MA, Western Kentucky University, 1990

Irish, Shannon C, Professor, MSN, Northern Kentucky University, 2007

Johnson, Todd, Instructor

Jolly, William, Instructor, Welding Certifications, Maysville Community and Technical College, 2013  
 Jones, Gordon, Instructor, AAS, Maysville Community and Technical College, 1989  
 Klee, John R, Professor, MHE, Morehead State University, 1977  
 Lightner, Rebecca S, Professor, MSN, University of Kentucky, 1995  
 Lykins, Charles, Assistant Professor, MA, Morehead State University, 2006  
 Maddox, Natasha, Associate Professor, MBA, Morehead State University, 2013  
 May, Elena, Associate Professor, MA, Novosibirsk State University, 1990  
 McGowan, Julia, AAS, Maysville Community College, 2014  
 McKinney, Dallas, Instructor, BA, Morehead State University, 2010  
 McNutt, Mike, Instructor, BS, Western Kentucky University, 2009  
 Miller, John S, Associate Professor, MS, University of Kentucky, 1988  
 Moore, Brenda, Associate Professor, MA, State University of New York at Binghamton, 1988  
 Morris, Melanie J, Associate Professor, MSN, Northern Kentucky University, 2020  
 Muenks, Martha J, Professor, MA, University of Kentucky, 1993  
 Napier, Jerry, Associate Professor, PhD, University of Kentucky, 1997  
 Netherly, Preston, Assistant Professor, AAS, Maysville Community College, 2014  
 Newsom, Tyler, Instructor, AAS, Maysville Community College, 2012  
 Noble, Wendy, Professor, MA, Morehead State University, 2009  
 Ouderkirk, Jennifer, Assistant Professor, AAS, Maysville Community and Technical College, 2011  
 Overly, Garon, Instructor, MA, Arizona State University, 2016  
 Parker, Sally, Associate Professor, BSN, College of Mt Saint Joseph on the Ohio, 1979  
 Pasley, Terry L, Professor, MA, Northern Kentucky University, 1998  
 Pecco, Nicholas, Associate Professor, BS Morehead State University, 2005  
 Perkins, Brandin, Professor, MS, Morehead State University, 2005  
 Prater, Mary Alice, Associate Professor, DPT, Arcadia University, 2017  
 Pryor, Deri, Assistant Professor, MFA, Eastern Kentucky University, 2017  
 Pugh, Rebecca, Assistant Professor, MA, Morehead State University, 2012  
 Redden, Carla S, Associate Professor/Librarian II, MLS, University of Kentucky, 2009  
 Reed, Erica, Instructor, AAS, Ashland Community and Technical College, 2003  
 Reeder, Diana L, Associate Professor, AAS, Morehead State University, 1979  
 Richardson, James, Instructor, MS, Oklahoma State University, 2015  
 Sears, Christopher M, Professor, PhD, University of Wisconsin-Milwaukee, 2007  
 Sharp, Mary J, Professor, MS, Morehead State University, 1994  
 Sims, Rhonda Y, Professor, PhD, Walden University, 2014  
 Sloas, Thomas, Instructor, MS, University of Kentucky, 2013  
 Staviski, Sharon, Associate Professor, BS, Northern Kentucky University, 1990  
 Taylor, Carrie L, Associate Professor, MA, Northern Kentucky University, 2009  
 Teegarden, Troy, Instructor, MFA, University of Florida, 2006  
 Thornberry, Tara C, Professor, MBA, Morehead State University, 1984  
 Thoroughman, Michelle, Assistant Professor, BS, University of Kentucky, 2002  
 Tumlin, Jacquelyn, Instructor, AAS, Medical Nurse Aid Certification, Maysville Community and Technical College, 2010  
 Vice, Marlene K, Professor, AA, Morehead State University, 2001  
 Walker, Melinda F, Professor, MA, Morehead State University, 2004  
 Wallace, Terry, Instructor, AAS, Maysville Community and Technical College, 2020

Watkins, Matthew, Instructor, AAS, Maysville Community and Technical College, 2014  
 Watt, Alexandra, Instructor  
 Weiss, Justin A, Associate Professor, MS, Marshall University, 2009  
 Whitten, Brianna C, Associate Professor, MA, Georgetown College, 2004  
 Wilson, Sharon G, Professor, MS, Auburn University, 1985  
 Wylie, Jeff B, Professor, MA, Morehead State University, 1977  
 Zanakis, Rena, Instructor, MA, Western Kentucky University, 2015  
 Zemba, Patrick, Associate Professor, AAS, Columbus State Community College, 1991

## Correctional Campuses

### East Kentucky Correctional Complex<sup>1</sup>

Litteral, Holli H, Professor, MA, Morehead State University, 1999

<sup>1</sup> Note: HB 164 passed during the 2010 Kentucky General Assembly transferred management oversight and responsibility for Corrections Education programs to the Department of Corrections, effective July 1, 2010. Some faculty listed could have elected to transfer to the Department of Corrections.

# Owensboro Community and Technical College

## Mission Statement/Status of Accreditation

To enhance our community's vitality and economic development by providing high-quality educational opportunities through:

- Career Degree Pathways
- Transfer Degree Programs
- Workforce Development

Owensboro Community and Technical College, a member of the Kentucky Community and Technical College System, is a public two-year degree-granting institution serving Daviess and surrounding counties of Kentucky.

Owensboro Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Owensboro Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Transfer Curricula/Art Related

An Associate in Fine Arts (AFA) degree is designed to transfer into a Baccalaureate of Fine Arts (BFA) program at a four-year institution. Individual Associate in Fine Arts (A) degree curricula in each group is noted by an A in parenthesis.

- Theatre (A)
- Visual Art (A)

### Occupational/Technical Curricula

The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D) and Associate in Applied Science (A) degree curricula in each group are noted by C, D and A in parenthesis.

- Administrative Office Technology (C, A)
- Advanced Nursing Assistant (C)
- Agriculture (D, A)
- Air Conditioning Technology (C, D, A)
- Automotive Technology (C, D, A)
- Business Administration (C, D, A)
- Business Communication (C)
- Certified Medical Technician (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Construction Technology (C)

- Criminal Justice (C, A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Electrical Technology (C, D, A)
- Emergency Medical Services – Paramedic (C, A)
- Emergency Medical Technician (C)
- Engineering and Electronics Technology (C, D, A)
- Engineering Related: Project Lead the Way (C)
- Financial and Customer Service (C)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Healthcare Facilities Leadership (C, D, A)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)
- Logistics & Operations Management (C)
- Manufacturing Engineering Technology (C)
- Medicaid Nurse Aide (C)
- Medical Assisting (C, D, A)
- Medical Information Technology (C, A)
- Medical Laboratory Technician (C)
- Nursing (A)
- Pharmacy Technology (C)
- Plumbing Technology (C)
- Radiography (C, A)
- Surgical Technology (A)
- Technical Theatre (C)
- Veterinary Technology (A)
- Welding Technology (C, D, A)

## Contact Information

### Owensboro Community & Technical College

4800 New Hartford Road  
Owensboro, KY 42303  
(270) 686-4400  
Toll Free 1 (866) 755-OCTC  
[owensboro.kctcs.edu](http://owensboro.kctcs.edu) (<http://owensboro.kctcs.edu>)

### OCTC Downtown Campus

1501 Frederica Street  
Owensboro, KY 42301  
(270) 686-4444

### OCTC Southeastern Campus

1901 Southeastern Parkway  
Owensboro, KY 42303  
(270) 686-4488

## General Information

Office	Phone number
Admissions	(270) 686-4522
Business Office	1-855-5GO-OCTC (1-855-546-6282)
Workforce Solutions	(270) 686-4444
Continuing Education	(270) 686-4449
Disability Services	(270) 686-4528
Financial Aid	1-855-5GO-OCTC (1-855-546-6282)

Human Resources	(270) 686-4488
Library	(270) 686-4590
Marketing and Communications	(270) 686-4506
Records	(270) 686-4539
Transfer Center Liaison	(270) 686-4529
Veterans Affairs	(270) 852-8165

## Administration

Position	Name
President	Scott Williams, PhD
Chief Academic Officer	Veena Sallan, PhD
Chief Business Officer	Sarah Price
Chief Information Technology Officer	James Hartz
Chief Institutional Officer	Mike Rodgers
Chief Student Affairs Officer	Kevin Beardmore, EdD
Chief Workforce Solutions Officer	Cynthia Fiorella
Dean of Academic Affairs – Technical Programs	Stacy Edds-Ellis, PhD
Dean of Academic Affairs – General Education Programs	Marc Maltby, PhD
Dean of Student Affairs	Ashley Crowe, PhD

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Abell, Donna, Professor/Librarian MS, Florida State University, 2004  
 Alschbach, Matthew, Associate Professor, MA, San Diego State University, 2008  
 Ash, Angela, Professor, EdD, Western Kentucky University, 2018  
 Basham, Zara, Professor, AAS, Owensboro Community and Technical College, 2013  
 Boarman, Laura, Assistant Professor, DVM, Auburn University, 2010  
 Boyd, Michael, Professor, MBA, Southwest Missouri State University, 1987  
 Boyd, Vicki H, Professor, MA, Murray State University, 1981  
 Branham, Matthew, Professor, MA, Morehead State University, 2000  
 Brown, Kathryn, Professor, MA, Western Kentucky University, 1994  
 Camron, Gage, Instructor, BS, Western Kentucky University, 2022  
 Canales, Michael, Professor, BS, DeVry University, 1987  
 Caplan, GERALYN M, Professor, EdD, Western Kentucky University, 2015  
 Clark, Kelly, Instructor, MS, Eastern Illinois University, 2021  
 Clark, Robin, Assistant Professor, BS, Western Kentucky University, 2016  
 Collins, Shannon, Professor, MA, Morehead State University, 2000  
 Crowe, Randy, Professor, BS, Western Kentucky University, 1999  
 DePasquale, Donna, Associate Professor, MS, Western Kentucky University, 2013  
 Dick, Timothy T, Professor, PhD, University of Kentucky, 2002  
 Donahoo, Lori, Associate Professor, DNP, Western Kentucky University, 2017  
 Ebelhar, Bethany, Professor, MSN, Murray State University, 2011  
 Edwards, Lois M, Associate Professor, EdD, Western Kentucky University, 2017  
 Elderwood, Justin, Instructor, AAS, Owensboro Community and Technical College, 2017  
 Epley, Jacquelyn, Instructor, MA, University of Southern Indiana, 2015  
 Floyd, Emily, Assistant Professor, MS, Indiana Wesleyan University, 2019  
 Ford, Constance R, Professor, DME, Indiana University, 1983

Gesser, Chad, Associate Professor, MA, Western Kentucky University, 1997  
 Gibson, Molly, Associate Professor, MA, Western Kentucky University, 2005  
 Gish, Misty, Professor, MS, Murray State University, 2001  
 Glenn III, Robert J, Professor, PhD, University of Southern Mississippi, 2009  
 Hall, Richard, Assistant Professor, MS, Marshall University 2000  
 Hamilton, Cassandra, Professor, MA, Western Kentucky University, 2003  
 Hanes, Denise, Instructor, PhD, Purdue University, 1995  
 Harris, Billie, Instructor, AS, Elizabethtown Community and Technical College, 2010  
 Henderson, Crystal, Instructor, AS, Owensboro Community and Technical College, 2011  
 Higdon, F Martin, Associate Professor, BS, Western Kentucky University, 2018  
 Hirtz, Nathaniel R, Assistant Professor, MS, Murray State University, 2006  
 Hoffman, Kathy, Professor, MS, Catholic University of America, 1986  
 Huffman, Danny, Assistant Professor, MS, Indiana University – Bloomington, 1973  
 Jackson, Jacqueline, Associate Professor, BS, Murray State University, 2009  
 James, Walter, Associate Professor, AAS, Owensboro Community and Technical College, 2017  
 Jorgensen, Amy, Instructor, MA, University of Southern Indiana, 2013  
 Kellen, Nathan, Instructor, PhD, University of Connecticut, 2019  
 Kinney, Mary, Assistant Professor, MA, Western Kentucky University, 2012  
 Kobella, Peter, Associate Professor, MA, Matej Bel University, 1998  
 Logsdon, Connie, Assistant Professor, MA, Western Kentucky University, 1997  
 Lutzel, John, Professor/Librarian IV, MLS, University of Southern Mississippi, 2004  
 Martin, Jacob, Instructor, BS, Western Kentucky University, 2018  
 Monsour, Matthew, Associate Professor, MA, Saint Meinrad School of Theology, 2010  
 Morris, Edward J, Professor, PhD, Southern Illinois University, 1989  
 Moseley, Daniel J, Professor, BS, Western Kentucky University, 2008  
 Muniz, Ramon, Instructor, PhD, Florida International University, 2021  
 Nies, Sasha, Instructor, BSN, Indiana Wesleyan University, 2019  
 Northenor, Tonya, Professor, MFA, University of Memphis, 1999  
 Payne, Justin, Professor, AAS, Owensboro Community and Technical College, 2005  
 Payne, Shawn, Professor AAS, Owensboro Community and Technical College, 2007  
 Perkins, Micah W, Professor, PhD, University of Louisville, 2016  
 Peterson, Brock, Associate Professor, MPA, Western Kentucky University, 2012  
 Pippin, Madeline, Assistant Professor, BSN, University of Louisville, 2014  
 Renfrow, Arielle, Instructor, BS, Western Kentucky University, 2015  
 Revlett, Kimberly, Instructor, ADN, Kentucky Wesleyan College, 2000  
 Ruth, Deborah L, Associate Professor, MA, Western Kentucky University, 1993  
 Saltsman, KrisCendria, Instructor, BSN, Western Kentucky University, 2011  
 Skaggs, Meredith, Professor, EdD, Western Kentucky University, 2015  
 Stone, Larry G, Associate Professor, Diploma, Owensboro Community and Technical College, 2005  
 Swanson, Susan, Professor MA, Western Kentucky University, 2007  
 Taylor, Eunice K, Professor, PhD, Capella University, 2015  
 Thomas, Brian, Instructor, MA, Western Kentucky University, 1996  
 Tudor, Michelle G, Professor, AAS, Owensboro Community College, 2000  
 Wallace, Albert F, Professor, MBA, Xavier University, 1978  
 Whitmer, Carrie, Instructor, MA, Western Kentucky University, 1996

Williamson, Timothy, Assistant Professor, MS, Northern Kentucky University, 2018

Wilkerson, Donald, Assistant Professor, PhD, Louisiana State University Health Sciences Center, 2002

Wilson, David, MFA, Illinois State University, 2001



# Somerset Community College

## Mission Statement/Status of Accreditation

Somerset Community College provides high quality, affordable, and accessible education and training to create student success, economic growth, and enhanced quality of life.

Somerset Community College, a member of the Kentucky Community and Technical College System, is a public associate degree granting institution serving the south central region of Kentucky.

Somerset Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Somerset Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org)) (<https://www.sacscoc.org/>).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Air Conditioning Technology (C, D)
- Apprenticeship Studies (A)
- Auto Body/Collision Repair Technology (C, D)
- Automotive Technology (C, D)
- Aviation Maintenance Technology (C, D, A)
- Business Administration (C, D, A)
- Certified Medical Technician (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D)
- Construction Technology (C, D)
- Cosmetology (C, D)
- Criminal Justice (C, A)
- Culinary Arts (C, D, A)
- Diesel Technology (C, D)
- Digital Printing Technology (C)
- Electrical Technology (C, D)
- Emergency Medical Services— Paramedic (C, A)
- Emergency Medical Technician (C)
- Engineering and Electronics Technology (C, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Care Foundations (C)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, D, A)

- Masonry (C)
- Medical Assisting (C, D)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C, A)
- Multi-Skilled Systems Technician (C)
- Nursing (A)
- Pharmacy Technology (C, D)
- Physical Therapist Assistant (A)
- Plumbing Technology (C)
- Practical Nursing (C, D)
- Radiography (C, A)
- Respiratory Care (A)
- Surgical Technology (C, A)
- Truck Driving Training (C)
- Visual Communication:
  - Design & Technology (C)
  - Multimedia (C, D, A)
- Welding Technology (C, D)

## Contact Information

### Somerset Community College

#### SCC Somerset Campus

808 Monticello St.  
Somerset, KY 42501  
Toll Free (877) 629-9722 or (606) 679-8501  
[somerset.kctcs.edu](http://somerset.kctcs.edu) (<http://somerset.kctcs.edu>)

#### SCC Laurel Campus

100 University Dr.  
London, KY 40741

#### SCC McCreary Center

141 College St.  
Whitley City, KY 42653

#### SCC Russell Center

848 W. Steve Wariner Dr.  
Russell Springs, KY 42642

#### SCC Clinton Center

1273 KY Highway 90 W.  
Albany, KY 42602

#### SCC Casey Center

1031 Hustonville St.  
Liberty, KY 42539

## General Information

Office	Phone number
General Information	(877) 629-9722
Admissions/Records	1-855-66GO-SCC (1-855-664-6722)
Business Office	1-855-66GO-SCC (1-855-664-6722)
Career Services	(606) 451-6657
Disability Services	(606) 451-6706
Financial Aid	1-855-66GO-SCC (1-855-664-6722)
Human Resources	(606) 451-6620
Institutional Advancement	(606) 451-6618

Library/Learning Commons	(606) 451-6710
Lineman Training Center	(606) 451-6697
Marketing/Public Relations	(606) 451-6886
Transfer Center	(606) 451-6650
University Center of Southern Kentucky	(606) 451-6667
Veterans Affairs	(606) 878-4784
Workforce Solutions	(606) 451-6692
Website	<a href="http://someset.kctcs.edu">http://someset.kctcs.edu</a>

## Administration

Position	Name
President/CEO	Carey Castle, EdD
Senior Vice President of Academic Affairs	Clint Hayes, EdD
Vice President of Enrollment Management	Karleen Howard, EdD
Vice President of Institutional Effectiveness	Bruce Gover, EdD
Vice President of Administration	Jill Meece
Vice President of Institutional Advancement	Cindy Clouse
Vice President of Operations	Larry Abbott
Vice President of Student Affairs	Tracy Casada
Vice President of Workforce Solutions	Alesa Johnson
Dean of Health Sciences	Nancy Powell
Dean of Arts and Sciences	Jon Burlew
Dean of Business and Applied Technology	Kevin Bradford

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Abner, Jeffery, Associate Professor, MS, Eastern Kentucky University, 2019  
 Allen, Melinda J, Associate Professor, MA, Eastern Kentucky University, 1993  
 Anderson, Anita W, Instructor, BS, Liberty University, 2019  
 Asher, Jason A, Associate Professor, MA, Lindsey Wilson College, 2010  
 Atkinson-Bigelow, Johnna, Professor, MA, University of Kentucky, 1988  
 Barnes, Kelly J, Associate Professor, MS, Eastern Kentucky University, 2006  
 Beaty, Frances M, Associate Professor, AS, Eastern Kentucky University, 1986  
 Bell, Christopher D, Assistant Professor, AAT, Somerset Community College, 2001  
 Blevins, Jo Y, Professor, DNP, University of Kentucky, 2010  
 Bloomingburg, Michael S, Associate Professor, MA, Eastern Kentucky University, 2005  
 Bottoms, Tabitha A, Assistant Professor, Ky. Board of Cosmetology Instructor License, 2014  
 Bradley, Daniel A, Associate Professor, MA, Morehead State University, 2007  
 Bridgman, Pamela S, Professor, MS, Capitol College, 1999  
 Brock, Brandy, Professor, BS, Eastern Kentucky University, 2013

Brown, Eddie, Associate Professor, AAS, Somerset Community College, 2003  
 Broyles, Angela W, Associate Professor, MS, Eastern Kentucky University, 1999  
 Brummett, Paula, Instructor, BS, Eastern Kentucky University, 2003  
 Burlew, Jonathan W, Professor, MS, Fort Hayes State University, 1993  
 Burton, Cindy L, Professor, BFA, American Intercontinental University, 2009  
 Byrd, Cynthia G, Instructor, M.A.Ed., Eastern Kentucky University, 1986  
 Calcaterra, Carol L, Associate Professor, MBA, Eastern Kentucky University, 1993  
 Calder, Michael V, Instructor, AAS, Somerset Community College, 2017  
 Carr, Christina L, Instructor, BS, Northern Kentucky University, 2017  
 Cash, Curtis F, Professor, MA, Union College, 2007  
 Chereson, Julia, Instructor, MA, Pennsylvania State University, 2018  
 Childress, Margaret L, Associate Professor, MBA, Morehead State University, 2008  
 Cleberg, Kimberlie S, Associate Professor, MA, Eastern Kentucky University, 2001  
 Coffey, David A, Associate Professor, MS, Eastern Kentucky University, 2015  
 Conaway, Vicki L, Professor, MSN, University of Kentucky, 1984  
 Crabtree, Christy M, Instructor, AAS, Somerset Community College, 2005  
 Crabtree, Marilyn, Instructor, MS, Western Governor's University, 2017  
 Dalton, Melissa A, Instructor, MA, Eastern Kentucky University, 2006  
 Day, Tammy R, Professor, BSN, Eastern Kentucky University, 2015  
 Deaton, Eric D, Associate Professor, MS, Eastern Kentucky University, 1997  
 Drew, Robert, Instructor, AAS, Somerset Community College, 2020  
 Eastham, Donna S, Professor, MAEd, Western Kentucky University, 1994  
 Eastham, Tamara K, Assistant Professor, MSN, Eastern Kentucky University, 2006  
 Elam, Debra L, Associate Professor, BS, Northern Kentucky University, 2020  
 Farmer, Adam C, Associate Professor, BS, Berea College, 2004  
 Feldman, Samantha B, Associate Professor, BS, Eastern Kentucky University, 2004  
 Franklin, Tracey L, Associate Professor, MA, Liberty University, 2020  
 Fugate, Dena, Assistant Professor, AAS, Somerset Community College, 2009  
 Gadd, Belinda P, Associate Professor, MA, Eastern Kentucky University, 2002  
 Gammage, Simeon D, Associate Professor, AAS, Somerset Community College, 2010  
 Goff, Laurie L, Instructor, MSN, Eastern Kentucky University, 2019  
 Graham, Gerald M, Associate Professor, AAS, Somerset Community College, 2000  
 Greene, Charles D, Instructor, BS, Eastern Kentucky University, 2017  
 Harris, James Ricky, Associate Professor, AAS, Somerset Community College, 2007  
 Harris, Jeffrey D, Professor, MA, Eastern Kentucky University, 1998  
 Hawk, Jillisa D, Assistant Professor, MSN, Eastern Kentucky University, 2008  
 Henson, LeAnn D, Instructor, BS, Northern Kentucky University, 2019  
 Herron, Elizabeth L, Instructor, BSN, University of Alabama, 2011  
 Hines, Melanie, Instructor, DPT, A.T. Still University, 2007  
 Hinkle, Teresa G, Associate Professor, MS, Eastern Kentucky University, 2010  
 Hinton, Sarah C, Instructor, MS, University of Kentucky, 2014  
 Hoseclaw, Ashley D, Assistant Professor, MS, Northern Kentucky University, 2019  
 House, Debra J, Professor, MS, University of Kentucky, 1994

- Howe, Julie M, Associate Professor/Librarian, MSLS, University of Kentucky, 2010
- Huffaker, Lorna S, Professor, MSN, Eastern Kentucky University, 2003
- Huntsman, Mary Taylor, Professor/Librarian, MA/MSLS, University of Kentucky, 1994
- Johnson, Kelly R, Associate Professor, MA, Eastern Kentucky University, 2003
- Kilgore, April L, Professor, PhD, University of Kentucky, 1994
- Land, Kimberly L, Assistant Professor, BA, Eastern Kentucky University, 2020
- Lawson, Darlene, Instructor, Diploma, Hazard Community and Technical College, 1999
- Lewis, Kathy S, Professor, MS, Eastern Kentucky University, 1994
- Logan, Donna L, Professor, MA, Eastern Kentucky University, 1997
- Mace, Ronald W, Associate Professor, MA, Morehead State University, 1984
- Martin, Ruth S, Professor, DNP, Western Kentucky University, 2017
- Martinez, George M, Professor, MS, Murray State University, 1991
- Matika, Richard S, Associate Professor, EdD, University of Kentucky, 2012
- McClendon, Steven S, Associate Professor, EdD, University of the Cumberlands, 2012
- McCowan, Steven M, Instructor, Diploma, Somerset Community College, 2011
- Meade, Ronald L, Professor, DPT, Shenandoah University, 2006
- Meier, Tina M, Assistant Professor, AAS, Somerset Community College, 2010
- Merritt, Lorrenda D, Assistant Professor, MA, Western Kentucky University, 2020
- Metcalf, Virginia E, Associate Professor, MS, Eastern Kentucky University, 2002
- Mills, Angela H, Associate Professor, BS, Northern Kentucky University, 2012
- Mills, Craylon T, Professor, PhD, Capella University, 2015
- Mitchell, John W, Instructor, Ky. CDL, 2018
- Morris, Amanda K, Associate Professor, MA, University of Kentucky, 2009
- Mullins, Cynthia, Instructor, DVM, Auburn University, 2000
- Muse, Dana L, Professor, MS, University of Kentucky, 1998
- Nazario, Eduardo C, Associate Professor, AS, Sullivan University, 2005
- Noel, Megan L, Instructor, AAS, Somerset Community College, 2011
- Null, George Curtis, Assistant Professor, AAS, Lexington Electronic Institute, 1995
- Osborne, Roger, Professor, MA, University of Louisville, 2002
- Owens, Jennifer, Professor, BS, Eastern Kentucky University, 2020
- Peery, Katherine E, Instructor, DBA, University of the Cumberlands, 2017
- Phelps, David A, Associate Professor, AAS, Somerset Technical College, 2004
- Phelps, Devin M, Associate Professor/Librarian, MSLS, University of Kentucky, 2011
- Phillips, Christopher M, Professor, EdD, University of Kentucky, 2011
- Pierce, Christopher A, Associate Professor, BS, University of Kentucky, 2003
- Price, Carol A, Professor, MSN, Eastern Kentucky University, 2014
- Ramilo, Cecilia A, Associate Professor, PhD, Washington State University, 1996
- Ramlochan, Jainarine, Instructor, DNP, Eastern Kentucky University, 2021
- Randall, Marci S, Professor, M.A.Ed., Eastern Kentucky University, 2011
- Ratliff, Donna R, Professor, M.A.Ed., Eastern Kentucky University, 1999
- Riddle, Jason, Instructor, AAT, Somerset Community College, 2000
- Roberts, Laura E, Associate Professor, BSN, Eastern Kentucky University, 1991
- Selvidge, David A., Instructor, BS, University of Kentucky, 2015
- Shannon, Kelli, Instructor, BS, Northern Kentucky University, 2021
- Shearer, Elizabeth A, Professor, MA, Western Kentucky University, 1988
- Shelton, Billie J, Professor, DNP, Eastern Kentucky University, 2017
- Shook, Beverly S, Assistant Professor, BS, Western Governors University, 2017
- Simpson, William Stuart, Professor, MS, Eastern Kentucky University, 2004
- Sizemore, Eric, Instructor, DP, Vanderbilt University, 2003
- Sizemore, Whitney L, Instructor, BSN, University of the Cumberlands, 2019
- Slevin, Amie E, Instructor, MA, Old Dominion University, 2014
- Smith, Martin E, Instructor, MA, Pine Manor College, 2019
- Smith, Roger Alan, Instructor, DP, Vanderbilt University, 2003
- Sorkin, Boris, Instructor, PhD, Northern Illinois University, 2005
- Spencer, Robert T, Professor, MA, Eastern Kentucky University, 1993
- Stephens, Erin, Associate Professor, MA, Eastern Kentucky University, 2007
- Stringer, Scott H, Instructor, AAS, Somerset Community College, 2013
- Taylor, Guy L, Instructor, BS, University of Kentucky, 1981
- Taylor, James H, Associate Professor, MA, Eastern Kentucky University, 2002
- Thacker, James R, Instructor, AAS, Somerset Community College, 2018
- Thomas, Janice E, Associate Professor, MSN, Eastern Kentucky University, 2008
- Tincher, James E, Assistant Professor, AAT, Somerset Technical College, 2000
- Toby, Kimberly L, Associate Professor, MS, University of Kentucky, 1998
- Tomlinson, Nick, Professor, MS, Eastern Kentucky University, 2006
- Torres, Israel, Instructor, AAS, Somerset Community College, 2014
- Upchurch, Joni M, Professor, BS, Eastern Kentucky University, 2016
- Vincent, Donna S, Instructor, BSN, Western Kentucky University, 2008
- Ware, Lisa N, Associate Professor, M.A.Ed., Eastern Kentucky University, 2010
- Waterstrat, Amanda J, Professor, PhD, University of Kentucky, 2009
- Weatherford, Megan S, Assistant Professor, MA, Western Kentucky University, 2013
- Welles, Bryan E, Instructor, AAS, Somerset Community College, 2006
- Wells, Michael E, Associate Professor, BS, Indiana Wesleyan University, 2013
- Westerfield, Mary Jo, Instructor, ASN, Eastern Kentucky University, 1991
- Wheet, Dee A, Associate Professor, MS, Northern Kentucky University, 2019
- Wilson, Jennifer K, Professor, MSN, Eastern Kentucky University, 2000
- Wooldridge, Eric N, Professor, MS, University of Kentucky, 2019
- Xia, Zhiming, Associate Professor, MS, University of Mississippi, 1999
- Zimmerman, Joseph, AAS, Ferris State University, 1995

# Southcentral Kentucky Community and Technical College

## Mission Statement/Status of Accreditation

SKYCTC will improve South Central Kentucky's economic prosperity through higher education focused on career development, community partnerships, and economic growth.

Southcentral Kentucky Community and Technical College, a member of the Kentucky Community and Technical College System, is a public two-year degree granting institution serving the south central region of Kentucky.

Southcentral Kentucky Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Southcentral Kentucky Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Air Conditioning Technology (C, D, A)
- Auto Body/Collision Repair Technology (C, D)
- Automotive Technology (C, D, A)
- Business Administration (C, D, A)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Culinary Arts (C, D, A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Electrical Technology (C, D, A)
- Emergency Medical Services – Paramedic (C)
- Emergency Medical Technician (C)
- Engineering and Electronics Technology (C, D, A)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Industrial Maintenance Technology (C, D, A)
- Medical Administrative Services (C)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C, A)
- Nursing (A)
- Practical Nursing (C, D)

- Radiography (A)
- Respiratory Care (A)
- Surgical Technology (A)
- Truck Driving Training (C)
- Welding Technology (C, D, A)

## Contact Information

### Southcentral Kentucky Community and Technical College

1845 Loop Drive  
Bowling Green, KY 42101  
Main Campus (270) 901-1000  
[southcentral.kctcs.edu](http://southcentral.kctcs.edu) (<http://southcentral.kctcs.edu>)

### Off Site Locations

#### Glasgow Campus

129 State Avenue  
Glasgow, KY 42141  
(270) 901-1200 & (270) 651-5673

#### Glasgow Technology Campus

500 Hilltopper Way  
Glasgow, KY 42141  
(270) 659-6900

#### Kentucky Advanced Technology Institute

1127 Morgantown Road  
Bowling Green, KY 42101  
(270) 901-1150

#### Transpark Center

221 Commonwealth Blvd  
Bowling Green, KY 42101  
(270) 901-1225

#### Franklin-Simpson Center

175 Davis Drive  
Franklin, KY 42134  
(270) 901-1119

## General Information

Office	Phone number
Admissions Denna White	(270) 901-1094
Adult Education & Literacy Joda Johnson	(270) 901-1013
Business Office Jennifer Noble	1-855-246-2482
Workforce Solutions Dr. Kim Myers	(270) 901-1033
Assessment & Testing Elaine Yates	(270) 901-1036
Disability Services Heather Daffron	(270) 901-1202
Financial Aid Jennifer Noble	1-855-246-2482
Human Resources Sherri Forester	(270) 901-1115
Resource Development Heather Rogers	(270) 901-1116



Library	(270) 901-1155
Kathryne LeFevre	
Public Relations	(270) 901-1117
Rebecca Lee	
Records	(270) 901-1001
Amy Cannon	
Transfer Information Liaison	(270) 901-1001
Brooke Justice	
Veterans Affairs	(270) 901-1003
Brett Middleton	
Website	(270) 901-1160
Josh Henderson	

## Administration

Position	Name
President	Dr. Phillip Neal
Provost	Dr. James McCaslin
Vice President of Student Affairs	Brooke Justice
Vice President of Business Services	Chris Cumens
Executive Director of SKYCTC Foundation & Vice President of Advancement	Heather Rogers
Vice President of Administrative Services	Sherri Forester
<b>Deans</b>	
Academic Services	Dr. Lisa Hunt
Arts and Humanities	Stephanie Hyman
Advanced Manufacturing Technologies	Dr. Gene Basil
Business	Chris Royse
Allied Health and Nursing	Dr. Angie Harlan
Mathematics and Sciences	Dr. Jennifer Shoemake
Workforce Solutions	Dr. Kim Myers

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Adams, Elizabeth C, Associate Professor, MA, Western Kentucky University, 2012  
 Adams, Jessica L, Associate Professor, MS, Murray State University, 2001  
 Austin, Dwight L, Instructor, MA, Western Kentucky University, 1988  
 Banks, Deborah P, Associate Professor, MA, Western Kentucky University, 2006  
 Bourque, Brittany, Professor, BSN, Western Kentucky University, 2005  
 Bradford, Joshua, Professor, BS, Western Kentucky University, 2006  
 Breaux, Chet D, Instructor, PhD, University of Louisiana at Lafayette, 2015  
 Cassady, Scott, Assistant Professor, MS, Florida State University, 1995  
 Chandler, Bobbie Jean, Instructor, AAS, Southcentral Kentucky Community and Technical College, 2015  
 Combs, Rex Allen, Professor, MS, Western Kentucky University, 2014  
 Conner, Rebecca E, Assistant Professor, Ph.D. Texas Woman's University, 1996  
 Davidson, Jessica, F, Associate Professor, BSN, Western Kentucky University, 2012  
 Dent, Julie G, Assistant Professor, MBA, University of Kentucky, 1997  
 Dowell, Ryan, Assistant Professor, MS, University of Kentucky, 2016

Eadens, Brian, Associate Professor, BS, Western Kentucky University, 2012  
 Ellis, Claudean, Associate Professor, MA, Nova Southeastern University, 2005  
 Embry, Amy B, Assistant Professor, DC, National University of Health Science, 2008  
 Endicott, Eddie A, Assistant Professor, Diploma, Southcentral Community and Technical College, 1990  
 Faine, John B, Professor, MS, Northern Kentucky University, 2006  
 Finley, Joseph Lynn, Professor, MS, University of Kentucky, 2002  
 French, Esther G, Associate Professor, MA, University of Southern Mississippi, 2005  
 Florence, Christina, M, Associate Professor, MA, Western Kentucky University, 2012  
 Galloway, Angela M, Associate Professor, MS, University of Kentucky, 2005  
 Gardner-Palmer, Jahi M, Assistant Professor, MS, Western Kentucky University, 2014  
 Gaskins, Carmen C, Professor, MS, Western Kentucky University, 1994  
 Gentry, Traci, Professor, MSN, Western Kentucky University, 2011  
 Gilbert, Bobby R, Assistant Professor, MSN, Western Kentucky University, 2010  
 Grant, Brayden, Assistant Professor, MAcc, Western Kentucky University, 2014  
 Graves, Lauren Lane, Assistant Professor, Western Kentucky University  
 Graves, Mary Claire, Assistant Professor, MSN, Western Kentucky University, 2018  
 Grider, Christie Lee, Instructor, BSN, Western Kentucky University, 2011  
 Harlan, Tara, Assistant Professor, MSN, Western Governors University, 2019  
 Harris, Patricia A, Assistant Professor, MBA, Western Kentucky University, 1999  
 Hatcher, Steve A, Professor, BS, Western Kentucky University, 2011  
 Hawks, Mark A, Assistant Professor, Mid-Continent University, 2008  
 Houchens, Charles D, Professor, MS, Western Kentucky University, 2009  
 Howard Jr, William D, Instructor, AAS, West Kentucky Community and Technical College, 2016  
 Hunt, Jon D, Professor, AAS, Bowling Green Technical College, 2006  
 Inscoe, Tammy, Assistant Professor, AAS, Southcentral Community and Technical College, 2009  
 Jeter, Chris, Associate Professor, BIS, Western Kentucky University, 2009  
 Jones, Charles D, Associate Professor, MA, Savannah College of Art and Design, 1990  
 Keel, Sue, Assistant Professor, MSN, Western Kentucky University, 2015  
 Keen, Robert A, Instructor, Tennessee College of Applied Technology, 2002  
 Kennedy, Barry A, Professor, MA, Western Kentucky University, 2003  
 King, Brian D, Assistant Professor, AAS, Southcentral Kentucky and Community Technical College, 2014  
 Kirby, Matthew R, Assistant Professor, MFA, Western Kentucky University, 2015  
 Krimmer, Amanda, Instructor, BS, Western Kentucky University, 1995  
 Lanphier, Tonya S, Assistant Professor, MA, Western Kentucky University, 2011  
 McFadden, Art, Instructor, BS, Western Kentucky University, 1995  
 McKenney, Ken D, Associate Professor, BS, Western Kentucky University, 2014  
 Moffett, Cara, Instructor, MS, The University of Tennessee, 2006  
 Moore, Wendy B, Associate Professor, MSN, Western Kentucky University, 2006  
 Morris, Deanna, Instructor, PhD, University of Kentucky, 2010



Moss, Timothy, Assistant Professor, AAS, Southcentral Kentucky Community and Technical College, 2012

Murthy, Sneha K, Assistant Professor, PhD, Chonbuk University, 2011

Nichols, Leslie, Assistant Professor, MA, Western Kentucky University, 2013

Norrod, Amy Paige, Associate Professor, BS, Mid-Continent University, 2008

Onwelumadu, Ifeyinwa, Instructor, EdD, Western Kentucky University, 2019

Otto, Kimberly D, Professor, MA, Western Kentucky University, 2006

Page, Amanda L, Assistant Professor, BSN, Western Kentucky University, 2017

Papalouca, Loucas, Professor, MS, Western Kentucky University, 1989

Patel, Virendrakumar Anikumar, Associate Professor, MA, Eastern Kentucky University, 2010

Pennycuff II, Donald B, Professor, MS, Western Kentucky University, 2007

Peyton, Natassia L, Associate Professor, MSN, Western Kentucky University, 2016

Pharris, Kimberly, Associate Professor, DNP, Chamberlain University, 2020

Phelps, Jeffery W, Professor, BS, Western Kentucky University, 2000

Poteet, Bruce D, Associate Professor, MA, Western Kentucky University, 2004

Reid, Sherri Lynn, Instructor, BSN, Lindsey Wilson College, 2019

Rhodes, Lisa, Assistant Professor, MA, Western Kentucky University, 1993

Richardson, Merrie, R, Assistant Professor, MS, Western Kentucky University, 2014

Sharp, Timothy J, Assistant Professor, MS, University of Tennessee, 2001

Shive, April, Professor, MSN, Western Kentucky University, 2011

Slaughter, Lori A, Professor, MA, Western Kentucky University, 2010

Smith, Shellenia R, Associate Professor, MA, Eastern Kentucky University, 2011

Sparks, Richard B, Professor, BS, University of Kentucky, 2003

Starnes, John H, Professor, PhD, University of Kentucky, 2013

Stephens, Jeremy, D, Associate Professor, AAS, Bowling Green Technical College, 2010

Tackett, Kristina, Professor, MS, Western Kentucky University, 2009

Taylor, Beau H, Assistant Professor, AS, Southcentral Kentucky Community & Technical College, 2013

Tucker, Sharon, Instructor, MA, Western Kentucky University, 1979

Turner, James R, Assistant Professor, MA, Western Kentucky University, 1972

Turner, Kerry S, Professor, AAS, Bowling Green Technical College, 2008

Waggoner, Constance, J, Professor, MS, Capella University, 2009

Ward, Teresa Y, Associate Professor, MS, Troy University, 1983

Watkins, Renea, Assistant Professor, MSN, Northern Kentucky University, 2020

Wendt, Leah D, Associate Professor, MA, California State Polytechnic University, 2008

West, Jared, D, Assistant Professor, AAS, Southcentral Kentucky Community and Technical College, 2006

White, Renee, Associate Professor, PhD, University of Louisville, 2003

Willinger-Frederick, Tammy L, Assistant Professor, MA, Western Kentucky University, 2019

Willoughby, Fallon A, Assistant Professor, MA, Western Kentucky University, 2015

Youngquist, Sherry W, Associate Professor, MA, Western Kentucky University, 1997

# Southeast Kentucky Community and Technical College

## Mission Statement/Status of Accreditation

The enduring purpose of Southeast Kentucky Community and Technical College is to enhance our students' lives and the lives of the people of our region through the transformative impact of education, service, career, and workforce training.

Southeast Kentucky Community and Technical College is a public, comprehensive community and technical college serving southeast Kentucky and is under the governance of the Kentucky Community and Technical College System (KCTCS).

Southeast Kentucky Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of Southeast Kentucky Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Air Conditioning Technology (C, D)
- Appalachian Studies (C)
- Auto Body/Collision Repair Technology (C, D)
- Automotive Technology (C, D)
- Broadband Technology (C)
- Business Administration (C, A)
- Business Communications (C)
- Business Foundations (C)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D)
- Construction Technology (C, D)
- Criminal Justice (C, A)
- Diesel Technology (C, D, A)
- Digital Printing Technology (C)
- Education (A)
- Electrical Technology (C, D)
- Emergency Medical Services – Paramedic (C)
- Emergency Medical Technician (C, A)
- Engineering Related – Project Lead the Way (PLTW) (C)
- Engineering and Electronics Technology (C, D)

- Fixed Wing Flight Training (C)
- General Occupational/Technical Studies (A)
- Health Care Foundations (C)
- Human Services (C)
- Industrial Maintenance Technology (C, D)
- Interdisciplinary Early Childhood Education (C)
- Medical Assisting (C, D)
- Medical Information Technology (C, D)
- Mining Technology (C)
- Nursing (A)
- Nursing – Academic/Career Mobility (D)
- Physical Therapist Assistant (A)
- Plumbing Technology (C)
- Practical Nursing (C)
- Radiography (C, A)
- Respiratory Care (A)
- Surgical Technology (D, A)
- Telehealth Technician Associate (C)
- Welding Technology (C, D)
- Workplace Safety Specialist (C)

## Contact Information

### Southeast Kentucky Community and Technical College

700 College Road  
Cumberland, KY 40823  
(606) 589-2145  
[southeast.kctcs.edu](http://southeast.kctcs.edu) (<http://southeast.kctcs.edu>)

### Harlan Campus

164 Ball Park Road  
Harlan, KY 40831  
(606) 573-1506

### Middlesboro Campus

100 College Road  
Middlesboro, KY 40965  
(606) 242-2145

### Pineville Campus

10350 South US 25E  
Pineville, KY 40977  
(606) 337-3106

### Whitesburg Campus

2 Long Avenue  
Whitesburg, KY 41858  
(606) 633-0279

## General Information

Office	Phone number
Academics Kevin Lambert	(606) 589-3305
Academic Support Pricie Young	(606) 589-3322
Admissions Felicia Carroll	(606) 248-0257

Bookstore	(606) 589-3086
Stephanie Jenkins	
Business Affairs	(606) 248-2223
Sandy Mayes	
Director of Advising	(606) 589-3074
Sherry Tinsley	
Disability Services	(606) 589-3214
Michael Ingram	
Financial Aid	(606) 248-0142
Barbara Gent	
Human Resources	(606) 589-3321
Sharon Johnson	
Library	(606) 589-3070
Lynn Cox	
Marketing	(606) 589-3198
Shawn Lind	
President's Executive Assistant	(606) 248-2171
Julie Brooks	
Public Relations	(606) 248-0484
Amy Simpson	
Recruiting	(606) 248-0255
Kim Maynard	
Registration/Records	(606) 248-0137
Anita Barnhill	
Transfer/Career Information Liaison	(606) 248-0620
Rian Edwards	
Veterans Affairs	(606) 248-0143
Kim Hobbs	
Website	<a href="http://southeast.kctcs.edu">http://southeast.kctcs.edu</a>
Workforce Solutions	(606) 248-2224
Sherri Clark	

## Administration

Position	Name
President/CEO	Dr. Vic Adams
Vice President of Academic Affairs Officer	Dr. Kevin Lambert
Vice President of Student Affairs Officer	Dr. Rebecca J. Johnson
Vice President of Institutional Advancement Officer	Carrie Billett
Vice President of Business Affairs Officer	Angela Simpson
Campus Director Cumberland & Harlan Campus	Elijah Buell
Campus Director Middlesboro & Pineville Campus	Dr. Rebecca Johnson
Campus Director Whitesburg Campus	Deborah Young
Chief Information Technology Officer	Merrill Galloway
Cultural Diversity Services	Ryland Pope
Dean of Academic Affairs General Education/Transfer	Peggy Conklin
Dean of Academic Affairs Technical/Allied Health	Dr. Erin Reasor

Dean of Administrative Services	Paul Bryant
Director of Human Resources	Sharon Johnson
Director of Marketing	Shawn Lind
Director of Operations	Elijah Buell
Director of Public Relations	Amy Simpson
Director of Safety and Security	Allen Layne
Director of Workforce Solutions	Sherri Clark

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Abrams, Emily, Assistant Professor, BS, King University, 2014  
 Anderson, Brittany, Instructor, BS, Morehead State University, 2021  
 Arwood, Ruthellen, Assistant Professor, BSN, University of the Cumberlands, 2017  
 Bargo, Glenna, Professor, MSN, Eastern Kentucky University, 2008  
 Barrick, Lisa, Associate Professor, MEd, Lincoln Memorial University, 2010  
 Blanton, Scott, Professor, MSN, Northern Kentucky University, 2011  
 Bowling, Kenneth N, Professor, BS, Union College, 2003  
 Bowling, Tracy, Professor, PT, DPT, University of Kentucky, 2010  
 Buell Jr, Elijah, Professor, MBA, Morehead State University, 1980  
 Carmack, Michael E, Professor, AAS, Harlan Regional Technology Center, 1995  
 Chapman, Tammie, Professor, MA, Cumberland College, 1995  
 Childress-Brock, Rachel, Instructor, MSN, Chamberlain University, 2018  
 Clutts, David W, Professor, EdD, Liberty University, 2010  
 Collier, William G, Professor, MA, Eastern Kentucky University, 1992  
 Conklin, Peggy, Professor, MA, Morehead State University, 1985  
 Conover, Edwin Wheeler, Professor, PhD, Cincinnati, 1996  
 Cox, Lynn, Librarian I, MS, University of Kentucky, 1994  
 Craiger, Jacob, Instructor, AAS, Southeast Kentucky Community and Technical College, 2017  
 Dingus, Ariel, Associate Professor, MA, Middle Tennessee State University, 2012  
 Dixon, Jill Suzanne, Associate Professor, DPT, University of Kentucky, 2011  
 Druen, Matthew, Associate Professor, PhD, University of Louisville, 2010  
 Dyer, Bradley, Professor, MS, Eastern Tennessee State University, 1999  
 Eldahan, Ismail A, Professor, MS, American Sentinel University, 2008  
 Epling, Michael, Professor, MBA, Morehead State University, 1995  
 Fields, Brian, Associate Professor, MS, Everest University, 2010  
 Forson-Scopa, Elana, Associate Professor, MS, Eastern Kentucky University, 2003  
 Gilliam, Kristy, Instructor, BSN, Morehead State University, 2017  
 Good, Michael S, Professor, MS, Eastern Kentucky University, 2001  
 Gordon, Shelia, Professor, MLS/MSW, University of Kentucky, 2014/1995  
 Guy, Janet, Instructor, MSN, East Tennessee State University, 2016  
 Halcomb Jr, Astor, Professor, BUS, Morehead State University, 1992  
 Handzlik, Kate, Instructor, MA, Virginia Tech, 2020  
 Hicks, Kerry, Instructor, MSN, University of Mississippi, 2005  
 Holbrook, Sandy, Professor, EdD, Eastern Kentucky University, 2016  
 Housenick, Mitchell, Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 2001  
 Hughes, Carlton W, Professor, MA, Marshall University, 1987  
 Humfleet, Melissa, Assistant Professor, PhD, University of Tennessee, 2016  
 Jackson, Terri, Associate Professor, MSN, Western Kentucky University, 2014  
 Jent, Brandon, Instructor, MA University of Kentucky, 2010

Johnson, Joseph, Professor, PhD, Clemson University, 2010  
Jones, Jamie, Associate Professor, MA, East Tennessee State University, 2006  
Kidwell, David T, Professor, PhD, University of Kentucky, 1993  
Lambert, Kevin, Professor, MS, University of Tennessee, 1994  
Lawson, Rebecca L, Professor, CST, BA, Ashford University 2007  
Long, Timothy, Instructor, Associate of Arts, Valencia College, 1984  
Marcum, Joseph S, Professor, MA, University of Tennessee, 1980  
Mayes, Caroline, Associate Professor, MA, National University, 2007  
Miller, Rebecca D, Professor, MA, Union College, 1998  
Mills, Dana, Assistant Professor, AAS, Fugazzi College, 1999  
Mullins, Sarah, Instructor, AAS, Southeast Kentucky Community and Technical College, 2014  
Nolan, Jennifer, Assistant Professor, AAS Nursing, Southeast Community College, 1986  
Omar, Saeb, Professor, PhD, Mississippi State University, 1987  
Pace, Natosha, Assistant Professor, BSN, Eastern Kentucky University, 2007  
Pope, Ryland, Instructor, MA, University of Tennessee, 2012  
Redmond, Tammy, Instructor, BSN, Eastern Kentucky University, 2016  
Scopa Jr, Joseph A, Professor, MFA, Pennsylvania State University, 1976  
Simpson, Amelia, Professor, MFA, Spaulding University, 2013  
Singh, Rajiv, Associate Professor, MS, University of North Dakota, 2012  
Smith, Marshall, Associate Professor, BS, Eastern Kentucky University, 2018  
Smith, Thomas, Instructor, AAS, Southeast Kentucky Community and Technical College, 2017  
Stanton, Samantha, Instructor, BHS, Washburn University, 2015  
Stewart, Jenny, Associate Professor, BS, University of Kentucky, 1982  
Turner, Delilah, Assistant Professor, BS, Eastern Kentucky University, 2013  
Turner, Mary Leann, Professor, BS, Eastern Kentucky University, 1994  
Vaught, Jamie, Professor, MBA, University of Kentucky, 1981  
Walker, Robert, Associate Professor, AAS, Southeast Kentucky Community and Technical College, 2016  
Webb, Danny, Associate Professor, MA, Eastern Kentucky University, 1994  
Whited, Paula, Associate Professor, MSN, University of Louisville, 2007

# West Kentucky Community and Technical College

## Mission Statement/Status of Accreditation

West Kentucky Community and Technical College promotes equity as we champion student success, provide excellence in teaching and learning, and advance economic development within a diverse and inclusive campus community.

West Kentucky Community and Technical College is a member of the Kentucky Community and Technical College System.

West Kentucky Community and Technical College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Questions about the accreditation of West Kentucky Community and Technical College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org) (<https://www.sacscoc.org/>)).

## Academic Programs

### Transfer Curricula

- Associate in Arts
- Associate in Science

### Transfer Curricula/Art Related

An Associate in Fine Arts (AFA) degree is designed to transfer into a Baccalaureate of Fine Arts (BFA) program at a four-year institution. Individual Associate in Fine Arts (A) degree curricula in each group is noted by an A in parenthesis.

- Visual Art (A)

### Occupational/Technical Curricula

Occupational/Technical Curricula: The program listing represents broad groups of instructional programs offered by the college. Individual certificate (C), diploma (D), and Associate in Applied Science (A) degree curricula in each group are noted by C, D, and A in parenthesis.

- Administrative Office Technology (C)
- Advanced Nursing Assistant (C)
- Air Conditioning Technology (C, D)
- Apprenticeship Studies (A)
- Auto Body/Collision Repair Technology (C, D)
- Automotive Technology (C, D, A)
- Business Administration (C, D, A)
- Computer Aided Drafting and Design (C, D)
- Computer and Information Technologies (C, A)
- Computerized Manufacturing and Machining (C, D, A)
- Construction Technology (C, D)
- Cosmetology (C, D)
- Criminal Justice (C, A)
- Culinary Arts (C, D, A)
- Dental Assisting and Dental Hygiene (D)

- Diesel Technology (C, D)
- Diagnostic Medical Sonography (A)
- Electrical Technology (C, D, A)
- Emergency Medical Technician (C)
- Fire Science Technology (C, D, A)
- General Occupational/Technical Studies (A)
- Health Science Technology (A)
- Heavy Equipment Operation (C)
- Human Services (C)
- Industrial Maintenance Technology (C, D, A)
- Interdisciplinary Early Childhood Education (C, A)
- Logistics and Operations Management (C, A)
- Marine Technology (C, A)
- Mechatronics (C)
- Medical Information Technology (C, D, A)
- Medical Laboratory Technician (C, A)
- Nursing (A)
- Pharmacy Technology (C, D)
- Physical Therapist Assistant (A)
- Practical Nursing (C, D)
- Radiography (A)
- Surgical Technology (A)
- Truck Driver Training (C)
- Visual Communication:
  - Design & Technology (C)
  - Multimedia (C, D, A)
- Welding Technology (C, D)

## Contact Information

### West Kentucky Community and Technical College

4810 Alben Barkley Drive

Paducah, KY 42001

(270) 554-9200

[westkentucky.kctcs.edu](http://westkentucky.kctcs.edu) (<http://westkentucky.kctcs.edu>)

## General Information

Office	Phone number
Accessibility Services	(270) 534-3334
Admissions/Records	1-855-GO-WKCTC (1-855-469-5282)
Advising Center	1-855-GO-WKCTC (1-855-469-5282)
Adult Learning Center (Adult Education/GED program) McCracken County	(270) 534-3451
Adult Learning Center (Adult Education/GED program) Graves County	(270) 856-2422
Assessment Center	1-855-GO-WKCTC (1-855-469-5282)
Bookstore (Anderson Technical Building)	(270) 534-3247
Business Office	1-855-GO-WKCTC (1-855-469-5282)
Challenger Learning Center	(270) 534-3101
Clemens Fine Arts Center Box Office	(270) 534-3212
Community Education	(270) 534-3821
Financial Aid	1-855-GO-WKCTC (1-855-469-5282)



General Information	(270) 554-9200
Human Resources	(270) 534-3085
Library	(270) 534-3197
Marketing and Communications	(270) 534-3083
Paducah School of Art & Design	(270) 408-4278
Purchase Training Center (Mayfield)	(270) 247-3869
Security	(270) 564-8403
Skilled Craft Training Center (Hickory)	(270) 856-2400
Workforce Solutions Assessments	(270) 534-3322
Transfer Advising Center	(270) 534-3187
University of Kentucky College of Engineering	(270) 534-3900
Veterans Affairs	(270) 534-3110
Website	<a href="http://westkentucky.kctcs.edu">http://westkentucky.kctcs.edu</a>

## Administration

Position	Name
President/CEO	Dr. Anton Reece
Interim Vice President of Academic Affairs	Dr. Renea Akin
Vice President of Workforce & Economic Development	Kevin O'Neill
Vice President of Business Affairs & Human Resources	Bridget Canter
Vice President of Operations	Shay Nolan
Vice President of Student Services	Emily Peck
Vice President of Institutional Advancement	Lee Emmons
Associate Vice President of Academic Affairs	Dr. Kate Senn
Interim Associate Vice President of Institutional Planning, Research, and Effectiveness	Geelyn Warren
Associate Dean of Student Services	Octavia Lawrence
Director of Marketing and Communications	Janett Blythe
Director of the Clemens Fine Arts Center	Todd Birdsong
Director of Adult Education/SkillsU	Tammy Maines
Dean of Applied Technologies Division	Stephanie Milliken
Dean of Humanities, Fine Arts, Business and Social Science Division	Britton Shurley
Dean of Nursing & Allied Health Division	Dr. Shari Gholson
Dean of Science, Math, Computers and Information Technology Division	Corey Wadington

## Faculty

*This page reflects faculty names and their degree/credential as of July 1, 2022. This information is updated annually.*

Aho, Paul R, Associate Professor, MFA, University of South Florida, 1979  
 Akin, Selenia R, Professor, EdD, Vanderbilt University, 2010  
 Arnone, Samuel J, Associate Professor, BS, Southern Illinois University, 1998  
 Ashmore, Teresa L, Instructor, BSN, Purdue University, 2012  
 Baker, Jonathan H, Instructor, AAS, West Kentucky Community and Technical College, 2016  
 Balcerzak, Amanda C, Instructor, PharmD, University of Kentucky, 2009  
 Barrett, Beverly J, Instructor, PhD, Capella University, 2018  
 Bell, Kristy M, Instructor, MSN, Chamberlain University, 2020  
 Blaine, Patricia A, Professor, MA, Fort Hays State University, 1981  
 Blankenship, Michelle, Instructor, MSN, Indiana Wesleyan University, 2013  
 Broadbent, Kathryn P, Assistant Professor, PhD, University of Louisville, 1988  
 Burgess, Melissa A, Assistant Professor, MS, Murray State University, 2000  
 Cahill, Charles S, Associate Professor, MS, California Polytechnic State University, 2009  
 Caldwell, Paul H, Associate Professor, BS, Murray State University, 2016  
 Campbell, Mary J, Assistant Professor, MS, Southern Illinois University, 1993  
 Cates, Joel D, Associate Professor, MS, Murray State University, 2011  
 Collins, Melissa L, Instructor, BSN, Murray State University, 2020  
 Coltharp, Heather L, Professor, MSE, University of Kentucky, 1999  
 Craig, Paul L, Instructor, MA, St. Catherine College, 2016  
 Crider, Stacey L, BS, Mid-Continent University, 2011  
 Dickerson, Craig T, Professor, AAS, West Kentucky Community and Technical College, 2008  
 Dobbins, Charidy D, Assistant Professor, MSN, McKendree University, 2017  
 Donner, Jason W, Associate Professor, MA, Murray State University, 1995  
 Dotson, Megan E, Associate Professor, MAE, Murray State University, 2010  
 Draffen, Carla K, Professor, MBA, Murray State University, 1987  
 Driver, Timmy E, Professor, AAS, West Kentucky Community and Technical College, 2006  
 Dubois, Evin D, Assistant Professor, MFA, University of Illinois at Urbana-Champaign, 2017  
 Duncan, Gwendolyn L, Assistant Professor, MA, International Theological University, 2006  
 Durbin, Laura R, Professor, MSN, Indiana Wesleyan University, 2013  
 Durbin, Melissa N, Instructor, MPA, Murray State University, 2006  
 Elder, Ashlee C, Instructor, MSN, Indiana Wesleyan University, 2019  
 Engelland, Erik J, Associate Professor, AAS, West Kentucky Community and Technical College, 2010  
 Esau, Emily R, Assistant Professor, MFA, Academy of Art University, 2016  
 Farrell, Laura K, Assistant Professor, BS, Mississippi University for Women, 2009  
 Fennel, Krista A, Instructor, MSN, Murray State University, 2002  
 Fiddler, Stephanie A, Instructor, BSN, University of Memphis, 2015  
 Fiser, Angela M, Instructor, MSN, Chamberlain University, 2016  
 Frick, Tyra L, Associate Professor, EdD, Murray State University, 2017  
 Gar, Joseph D, Assistant Professor, PhD, University of the Cumberland, 2015  
 Gholson, Shari D, Professor, DNP, Northern Kentucky University, 2017  
 Goodaker, Gary W, Professor, MS, University of Illinois at Urbana-Champaign, 1997  
 Green, Curtis D, Associate Professor, AAS, Southern Illinois College, 2009  
 Gunn, Robert G, Associate Professor, BA, University of Alaska Fairbanks, 1981  
 Hamilton, Sarah C, Instructor, MSN, Walden University, 2017  
 Harper, Shawn, Professor, MS, Murray State University, 1990

Henry, Greta G, Associate Professor, MS, Murray State University, 2004  
 Hofer, William S, Associate Professor, AAS, West Kentucky Community and Technical College, 2011  
 Holland, Virgil T, Professor, AS, Murray State University, 2012  
 Hopkins, Allison A, Instructor, BIS, Western Kentucky University, 2019  
 Jackson, Crystal M, Instructor, BS, Murray State University, 2010  
 Jarvis, DeAnn, Professor, MEd, Memphis State University, 1989  
 Johnson, David C, Assistant Professor, AAS, Ivy Tech Community College, 2008  
 Johnson, Kelley L, Instructor, BIS, Murray State University, 1994  
 Jones, Latoya A, Professor, DC, Life University, 2001  
 Keeling, LeeAnn, Assistant Professor, MSN, Chamberlain University, 2021  
 Knapp, Jo A, Professor, MA, Murray State University, 1990  
 Kuiper, Betty L, Instructor, DNP, Murray State University, 2019  
 Liu, Sarah S, Professor, PhD, Old Dominion University, 2006  
 Lyons, Vanessa E, Assistant Professor, PhD, University of Missouri-Columbia, 2015  
 Mahoney, Joseph D, Professor, MA, Murray State University, 1990  
 Maupin, Mary E, Instructor, MA, Missouri State University, 2008  
 McDanel, Tracy L, Professor, BS, Murray State University, 2009  
 McDonald, Mildred L, Lecturer, Licensed Cosmetologist and Instructor, KY Board of Cosmetology  
 Milliken, Stephanie K, Professor, MS, Murray State University, 1996  
 Moore, Dedria D, Instructor, BS, Murray State University, 1994  
 Mulcahy, Carissa A, Instructor, BSN, University of Missouri-Kansas City, 2013  
 Neitzke, Tanya M, Assistant Professor, MFA, Southern Illinois University Carbondale, 2011  
 Newborn, Bradley C, Assistant Professor, BS, Morehead State University, 2018  
 Nickell, David L, Professor, MA, Western Kentucky University, 1982  
 Paul, Kelly K, Assistant Professor, MA, Murray State University, 2010  
 Pettitt, Christy L, Professor, MSN, University of Southern Indiana, 2007  
 Potts, Gregory S, Assistant Professor, BAE, University of Kentucky, 2017  
 Powell, Lyman R, Assistant Professor, AAS, John A. Logan College, 1988  
 Ragsdale, Tina L, Associate Professor, MS, Southern Illinois University at Carbondale, 2008  
 Reese, Gary L, Professor, MPA, Murray State University, 1987  
 Renfrow, Sarah B, Instructor, BSN, Murray State University, 2007  
 Robbins, Ronald W, Instructor, MS, Murray State University, 2010  
 Russell, Kimberly G, Professor, MA, Southeast Missouri State University, 2000  
 Savage, Kimberly J, Assistant Professor, BS, Murray State University, 2003  
 Shreves, Michelle R, Instructor, BSN, McKendree University, 2018  
 Shurley, Britton M, Professor, MFA, Indiana University, 2007  
 Sills, Eric W, Assistant Professor, AAS, West Kentucky Community and Technical College, 2015  
 Simmons, Randall R, Professor, MFA, University of Cincinnati, 1995  
 Smith, Mary Allison, Professor, MS, University of Colorado at Denver, 1998  
 Stephenson, Lisa G, Professor, EdD, University of Kentucky, 2012  
 Sullivan, Amy L, Assistant Professor, MSLS, University of Kentucky, 2017  
 Taveras, Victor M, Associate Professor, PhD, Pennsylvania State University, 2009  
 Taylor, Brent E, Associate Professor, MA, Murray State University, 2002  
 Taylor, Jason D, Professor, MS, Murray State University, 2000  
 Teague, Sancie E, Associate Professor, MA, Murray State University, 2009  
 Thompson, Chelsey A, Instructor, MS, Shawnee State University, 2021  
 Thompson, Julie E, Professor, MAT, Murray State University, 1999  
 Toon, Nichole M, Professor, MS, Murray State University, 2016  
 Uthoff, Candace N, Assistant Professor, AAS, Paducah Community College, 1992  
 Wade, Constance L, Professor, MA, Murray State University, 1991  
 Wadlington, Corey M, Professor, MAE, Austin Peay State University, 1999  
 Walker, Robin N, Instructor, MBA, Murray State University, 2003  
 Warren, Doralyn A, Instructor, BSN, Indiana Wesleyan University, 2012  
 Watson, Stacey A, Instructor, MA, Fort Valley State University, 2015  
 Wells, Jane A, Instructor, MAE, Lesley University, 2008  
 Willoughby, Jason R, Instructor, MBA, Kaplan University, 2008  
 Wilson, Ty G, Instructor, MA, Western Kentucky University, 2018  
 Wooley, Kristyn L, Instructor, Licensed Cosmetologist and Instructor, KY Board of Cosmetology  
 Vaughn-Doom, Anna M, Instructor, PhD, University of the Cumberlands, 2016

# ADMISSION

## Applying for Admission

A student enrolling at a KCTCS college for the first time must submit an application for admission. Students who are re-entering a KCTCS college after being out for one or more semesters should complete an application for readmission. Students may be admitted to a KCTCS college as freshmen, as students with transfer credit from other institutions, as visiting students, or as non-degree students. KCTCS colleges admit students who have graduated from high school, who have earned a high school general equivalency diploma, who are eligible to pursue a GED, or who are dually enrolled in high school and the college.

## Admission and Registration Procedures

Prospective students visit the college's website to complete an online application or contact the admission office of the college they wish to attend and request an admission application.

The full and proper name of the student and KCTCS student ID number must be used in registration and for all other official purposes.

Freshmen entering a college for the first time will be required to send an official copy of their high school transcript, GED, or state approved high school equivalency to the admission office of the college they plan to attend. Official high school transcripts submitted to KCTCS may be shared with all KCTCS Colleges.

Applicants entering with transfer credit must have an official transcript from each college attended forwarded to the admission office of the College they plan to attend. Official transcripts submitted to KCTCS may be shared with all KCTCS Colleges.

Applicants should submit evidence of college readiness as established by the KY Council on Postsecondary Education (CPE) <http://cpe.ky.gov/policies/collegereadiness.html> which includes results of the American College Test® (ACT), KYOTE, Scholastic Aptitude Test® (SAT), ALEKS and GED College Readiness scores. Applicants who have not achieved college readiness bases on one of the CPE recognized readiness assessments must complete a placement examination recognized in the KCTCS Assessment and Placement Policy and administered by any KCTCS college. For specific information regarding course placement, students should refer to the KCTCS Assessment and Placement Policy, which is available on the website at <https://policies.kctcs.edu/administrative-policies/4-13.aspx>

Admission to a college does not guarantee admission to a specific program. Applicants seeking admission to an occupational/technical program at any KCTCS college should contact the admission office of the college of interest for information regarding any special requirements for program admission.

Applicants must submit an application for admission and supporting documents prior to the first day of classes of the term or session for which the student plans to enroll. Some colleges, however, may have an earlier deadline date. Students should check with the admission office of the college they plan to attend for registration/application deadlines.

A student who applies for admission to a KCTCS college will receive instructions to establish access to Student Self-Service. Student Self-Service allows a student access to many services such as registration,

grades, class schedule, financial aid awards, bill payment and many other services.

All enrolled KCTCS students will be given access to a KCTCS-assigned email account. Official communication from faculty and student service personnel will be sent to this address. Students will continue to have access to this account as long as they are enrolled.

After receiving the completed application and other documents, the admission office will notify the applicant of his or her admission status. It is expected that all students will submit all required documents in order to be eligible to register for classes. In the event this is not possible, students should contact the Admissions Office of the KCTCS college they wish to attend for instructions or assistance. While provisions may be provided, students will not be permitted to register for subsequent semesters without all official required documents.

## Non-Degree/Non-Credential Students

At the discretion of the institution, persons who desire instruction without wishing to earn a credential may be admitted as non-degree/non-credential seeking students. These students are exempt from the college readiness Assessment and Placement Policy; however, all students (including high school students) must meet individual course and program pre-requisites such as those for entry-level English and mathematics courses.

Students may declare credential seeking status after meeting regular admission requirements. The college may review and reclassify credential-seeking status in accordance with policies established at each individual college. Non-degree/non-credential students are not eligible for Federal or state Financial Aid programs.

Credit earned before a student meets admission requirements will be counted toward a credential.

## High School Students

High school students can enroll in college level courses either as a dual credit student or as a dual enrolled student.

### Dual Credit

A dual credit course is a college-level course that allows a student to earn credit both at their high school and the KCTCS College for the same course. College credits are awarded for courses taken upon the completion of the course requirements and will become part of the student's official college transcript.

To enroll and obtain college credit in a dual credit course student must:

- Complete the KCTCS College's application for admission.
- Be admitted to the KCTCS College as a dual credit student.
- Meet the requirements for enrollment in the General Education and/or Technical Education Courses per the KCTCS Assessment & Placement of Dual Credit High School Students.

Tuition for a dual credit course is 1/2 of the per credit hour tuition charged by KCTCS for in-state students.

There are a number of people available to assist students with information and assistance for dual credit at each KCTCS college. Their contact information is available at: <https://kctcs.edu/dual-credit/contacts> (<https://kctcs.edu/dual-credit/contacts/>)

More information about dual credit, is available at: [kctcs.edu/dual-credit](http://kctcs.edu/dual-credit) (<http://kctcs.edu/dual-credit/>) and on individual college websites.

## Dual Enrollment

Students who want to take a course that is not eligible for, or offered for, dual credit may do so as a dually enrolled student. For these courses, students must adhere to the admission requirements required of non-degree/non-credential student. Tuition for a dual enrollment course is the standard KCTCS tuition.

## Freshmen Entering College for the First Time

A student who has graduated from high school or who has earned a high school equivalency diploma will be required to send an official copy of their high school transcript, GED, or state approved high school equivalency to the admission office of the college they plan to attend. Official high school transcripts submitted to KCTCS may be shared with all KCTCS colleges.

## Second Chance Students

A student who has previously attended a college or university – other than a college in the Kentucky Community and Technical College System – and who has less than an overall grade-point average of 2.0 on a 4.0 scale in all course work attempted, may be considered for admission on probation provided the applicant demonstrates both of the following:

- has not enrolled at a college or university for at least one 16-week semester, and
- can demonstrate potential for success.

## Transient/Visiting Students

A student may be admitted as a transient or visiting student. However, the student's parent college must certify each term that the student is enrolled or eligible to enroll at parent institution. For admission as a visiting student, a student may provide an official transcript or letter of good standing from their parent/home institution. For registration purposes, a transcript may be required to demonstrate completion of pre-requisite courses.

## International Students

Some KCTCS colleges are authorized under Federal law to enroll non-immigrant students. Consult the admission office of your college for details.

## Readmission after Two or More Years: Academic Bankruptcy

A student who has been readmitted after having remained out of a KCTCS College for a period of two or more years and who has completed at least 12 credit hours in college-level courses with a grade point average of 2.0 or better after readmission, may choose to have his/her previous KCTCS course work removed from the computation of the grade point average. This procedure is commonly called "academic bankruptcy."

A student who declares academic bankruptcy will continue to receive credit for those courses in which a grade of A, B, C, D, or P was earned prior to readmission without including those grades in the GPA computation. A student who has completed a credential and re-enrolls

may not apply the academic bankruptcy rule to courses taken for the credential already completed.

## Students with Previous College Work

An applicant who has previously attended an accredited college or university which awards degrees at the associate level or higher and who has an overall grade point average of at least 2.0 on a 4.0 scale in all course work attempted will be accepted for admission. For specific information on course placement, applicants should refer to the KCTCS Assessment and Placement Policy, which is available on the website at <https://policies.kctcs.edu/administrative-policies/4-13.aspx>

An official transcript of all previous college work must be submitted. The Council on Postsecondary Education's (CPE's) general education transfer policy provides the basis for an institution's policy on the acceptance of transfer credit. The American Association of Collegiate Registrars and Admissions Officers' "Transfer Credit Practices of Educational Institutions" shall serve as a reference for admission of transfer students to an institution and for the acceptance of transfer credit. Official post-secondary transcripts submitted to KCTCS may be shared with all KCTCS colleges.

KCTCS colleges shall provide academic counseling concerning the transfer of credit to transferring students. KCTCS colleges shall accept a student's college credit earned when a course is taken both for high school credit and for college credit. Credit earned through a dual credit or dual enrollment arrangement shall be treated the same as credit earned in any other college course.

Degree credit work is recognized credit hour for credit hour if taken on the semester system. Quarter hours are recognized as two-thirds (2/3) of a semester hour. Recognition of credit earned at a non-accredited college or university may be obtained by special subject examinations or may be validated upon the completion of 12 credit hours, excluding transitional courses, with a grade point average of at least 2.0.

## Change of Program

When students enroll in a KCTCS college they select a program of study in which they wish to "major" or receive a credential. Students enrolled in any KCTCS college may request a program change through the student affairs office of their local college. These students are instructed to seek appropriate advisement and financial aid counseling.

## KCTCS Assessment and Placement Policy

The KCTCS Assessment and Placement Policy (KCTCS Policy No: 4.13 as found at <https://policies.kctcs.edu/administrative-policies/4-13.aspx>) specifically applies to all credential-seeking students, students who transition from non-credential seeking to credential seeking, and students who are undecided about their choice of program as of Fall 2019, except students identified under 3.5 B Certificate and Diploma-Assessment and Placement Exemptions. Assessment and Placement Guidelines specific to dual credit high school students are found in this policy 4.13 Appendix I.

## General Provisions

- Students enrolling in a college credit course for the purpose of earning credit applicable toward an educational credential who meet the college readiness benchmarks as identified by the Council on Postsecondary Education's (CPE) College Readiness (see 4.13 APPENDIX III) Indicators may enroll in college-level coursework.



- B. A credential-seeking student who does not meet the College Readiness standards established by CPE may be required to enroll in no more than one (1) developmental course in each curriculum pathway (Reading, Writing, and Mathematics) in areas for which the student has not met the academic readiness standards. A developmental course means a course that prepares a student for college-level study and does not award credit toward a credential or degree (13 KAR 2:020).
- C. A student shall have access to a corequisite or credit-bearing content course in the curriculum pathway (English or mathematics) within the first academic year of enrollment. Corequisite course is defined as a course that includes enhanced academic supports, such as additional hours of instruction, tutoring, mentoring, or advising that awards credit toward a credential or degree (13 KAR 2:020).
- D. Students with 12 or more credit hours at the 100 level or above in general education courses with a 2.0 GPA are exempt from reading placement requirements and are considered college ready in reading. However, all students must meet individual course pre-requisites such as those for entry-level English and mathematics courses.
- E. Primary subject-level placement charts for reading, English and mathematics shall state the minimum score on the subject-specific domain for common tests used within KCTCS. Placement scores indicate minimum academic levels required for placement into KCTCS developmental courses, corequisite courses, entry-level reading, English and mathematics courses, and some programs. Colleges shall not require higher than the KCTCS placement scores listed. Placement charts do not indicate course sequences.
- F. All exam scores remain an indicator of academic readiness for a minimum of twelve (12) months from the date of administration. An institution shall not determine academic readiness using scores received from exams taken more than four (4) years prior. Administered placement tests, specific course selection, and course sequences may differ by college insofar as this policy allows. Students should refer to their respective colleges for details.
- G. Approved methods of assessment and placement are:
- ACT
  - Accuplacer
  - ALEKS
  - EdReady Diagnostic
  - EdReady Study Path
  - GED College Readiness
  - KYOTE
  - SAT
  - TABE 9/10-A (Discontinued as of December 31, 2021)
  - Wonderlic
- Students scoring below the college readiness standards may be eligible for high quality basic skills instruction through Kentucky Skills U (formerly Kentucky Adult Education). Students with college readiness scores below the benchmark can take the Test of Adult Basic Education (TABE) at the local Skills U Center to determine eligibility. Additionally, students may take advantage of various pre-enrollment interventions available at many KCTCS colleges.
- D. Accommodations
- Students with disabilities may request accommodations consistent with the provisions of Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. High School and Home-Schooled Students Assessment and Placement Guidelines specific to dual credit students are in 4.13 Appendix I. Home-Schooled students will follow these same guidelines.
- E. Waivers
- A college may establish procedures to exempt students from assessment and placement criteria. The procedure must include the conditions under which a waiver will be granted, including clearly identifying the students being granted a waiver and the reason for the waiver. The college's waiver policy must be on file at the college and in the KCTCS Chancellor's Office.
- The Covid Pandemic assessment and placement waivers have expired and the updated KCTCS Assessment and Placement Policy (<https://policies.kctcs.edu/administrative-policies/4-13.aspx>) dated 3/1/2022 is in place effective Fall 2022.

## Special Provisions

- A. College Discretion One-Level Advancement or "One-Up"
- KCTCS Colleges, at their discretion, may place credential-seeking students who score within one placement level below the system-wide standard into an entry-level college corequisite course or pathway-appropriate developmental course.
- B. Change in Quantitative Reasoning/Math Pathway
- KCTCS colleges may establish procedures to address developmental or prerequisite math needs for students who change programs and consequently QR/Math pathways. Placement into a corequisite course in the new pathway is strongly recommended.
- C. Alternative Remediation



# TUITION AND CHARGES

Tuition and charges vary based on whether a student is a Kentucky resident, non-resident, or resident of a contiguous county of a contiguous state. Tuition and charges are on a per credit hour rate, including courses that are audited. For questions regarding residency status and guidelines, see Appendix A. All tuition and charges are payable in full prior to the beginning of classes for each session of the term unless prior arrangement has been made with the college business office. Consult your local college business office for college-specific required payment dates. Provisions for partial or deferred payment instructions are available in the "Payment Plan Options" section below.

Tuition and charges are assessed at the time of registration and based upon a per credit hour rate for all KCTCS colleges regardless of whether the courses are taken during the day, evening, and/or on weekends, and regardless of whether the courses are taken for credit or audit purposes. Tuition rates vary based upon Kentucky resident or non-Kentucky resident status. Qualifying students living in out of state counties that are contiguous to Kentucky may qualify for a reduced tuition rate. Fractional credit hour tuition and charges are assessed for fractional credit offerings (i.e., a student taking  $\frac{1}{4}$  credit hour course would be assessed  $\frac{1}{4}$  rate of student with same residency taking a 1 credit hour course). Tuition and charges are refundable as per the "Refunds" section below. Charges for services are non-refundable unless specifically stated as refundable. Consult with your college business office for specifics. Tuition charges are published at (<https://kctcs.edu>).

## Mandatory Student Fee

A mandatory student fee of \$8 per credit hour will be assessed in the 2022-2023 academic year. Questions regarding fees may be directed to your college's business office.

## Charges for Customized Course Offerings

Some courses, including courses created specifically upon request (credit or non-credit) may have additional charges. The additional charge, depending upon the requirements of developing and producing the customized course or program, will vary depending upon the length and content of the course or program offerings. All tuition and charges for customized courses are payable upon registration unless prior arrangements, including third party contracts, have been made with the offering college. Please contact your local college business office for specifics.

## Charges for Services

Some charges for services may exist, including some individual program and/or special testing charges. General examples of these charges include, but are not limited to, the following: Proctored Testing, returned check charge, transcripts, lost library book and ID replacement charges. Charges will vary by service and are non-refundable. Contact your college business office for specifics.

Distance Education: There are no additional student charges associated with the verification of student identity.

## Charges for Special Examination

KCTCS colleges offer students institutionally developed special examinations to demonstrate mastery of course content and receive credit toward program requirements. Special examinations are course specific and charges are separate from regular tuition charges. Special

examination charges are payable in full at the time the examination is scheduled. Contact your local college business office for a listing of all charges.

Students who are enrolled in courses for which they elect to take a special examination in lieu of completing the course must officially withdraw from the course. The withdrawal date determines the status of the student's assessment, refund, and grade for the enrollment period. All special examination credit is awarded using the test credit process. In such instances, a grade will not be awarded on the current term grade report. Please contact your college's office of student affairs for application requirements.

## Cancellation of Registration for Non-Payment of Charges

Students who have not paid their tuition and charges or arranged for a payment plan on or before the college's required payment date are subject to having their registration cancelled for non-payment. Consult your local college business office for college-specific required payment dates.

## Payment Plan Options

In addition to the payment options of cash, check, or credit card, students may choose to participate in a KCTCS flexible tuition and charges payment plan (an option for students not planning to pay in full or having made an arrangement to pay in full) prior to the college's required payment date. To enroll in a payment plan, a student may login to his/her student self-service account (<https://students.kctcs.edu>) or contact his/her local college business office. Students have the option, depending on registration date, to enroll in one of three payment plan options listed below.

Plans	Service Charge	Percent Down	Monthly Payments	Availability
Option 1	<sup>1</sup>	None	4	Advance Registration Only
Option 2	<sup>1</sup>	25%	3	Through Advance Registration
Option 3	<sup>1</sup>	50%	2	Through Regular Registration

<sup>1</sup> Contact your local college business office for a list of charges.

Total payment of the balance of tuition and charges must be made by the required date. Contact your local college business office for specifics.

## Last Day to Enter an Organized Class

The last day to enter (add) an organized class (including Saturdays and Sundays) is as follows:

- 16-week Session - by the close of business of the 7th calendar day of the session.
- 8-week Session - by the close of business of the 4th calendar day of the session.
- 6-week Session - by the close of business of the 2nd calendar day of the session.

- 5-week Session – by the close of business of the 2nd calendar day of the session.
- 4-week Session - by the close of business of the 1st calendar day of the session.
- Irregular Session - prorated according to the length of the session in proportion to the traditional 16-week session.

Please check your local college course schedule and/or with your local college registrar for specific questions concerning the last day to enter (add) an organized class and session-specific Add/Drop dates.

Students cancelled for non-payment after the last day to enter an organized class may not be reinstated for that session. If in an acute extenuating circumstance a student cancelled for non-payment is re-enrolled, a charge per the “Schedule of Allowable Charges” must be assessed for that session. All tuition and charges must be satisfied at the time of reinstatement.

## Refunds

In order to receive a tuition refund, a student must officially withdraw within the refund period specified within this policy. Refunds for sessions different from those listed below are prorated according to the session in proportion to the traditional 16-week session. A session is defined as an enrollment period within an academic term. An academic term (fall, spring, or summer) may have a number of sessions running concurrently – 16-, 8-, or 4-week.

KCTCS has partnered with BankMobile Disbursements, a financial services company focused solely on higher education, to process student refund payments. Students are required to choose from one of the following three options for receiving any refunds due them:

1. ACH transfer to a bank account of their choice,
2. Paper check mailed to the student address on file,
3. Refund to a BankMobile Vibe account, an FDIC insured checking account offered by BankMobile Disbursements.

For additional information, please visit <https://bankmobiledisbursements.com/refundchoices/>.

### Timeframe for Refunds <sup>1</sup>

Session	100%	50%	No Refund
16-week	Within 7th day	8th-29th days	After 29th day
15-week	Within 7th day	8th-27th days	After 27th day
14-week	Within 6th day	7th-25th days	After 25th day
13-week	Within 6th day	7th-24th days	After 24th day
12-week	Within 5th day	6th-22nd days	After 22nd day
11-week	Within 5th day	6th-20th days	After 20th day
10-week	Within 4th day	5th-18th days	After 18th day
9-week	Within 4th day	5th-16th days	After 16th day
8-week	Within 4th day	5th-15th days	After 15th day
7-week	Within 3rd day	4th-13th days	After 13th day
6-week	Within 2nd day	3rd-10th days	After 10th day
5-week	Within 2nd day	3rd-9th days	After 9th day
4-week	Within 1st day	2nd-7th days	After 7th day
3-week	Within 1st day	2nd-5th days	After 5th day
2-week	Within 1st day	2nd-4th days	After 4th day
1-week	Within 1st day	2nd-2nd days	After 2nd day

<sup>1</sup> Calendar days of the session, including all Saturdays and Sundays.

KCTCS Colleges offer a variety of courses with different start and end dates. Please contact the business office at your local college for the guidelines for refunds.

## Financial Delinquency

Any student who is delinquent in financial obligations to a college, or any division or organization of a college, shall not be allowed to register for future terms, receive transcripts, transfer credits to another institution, complete testing for Kentucky Medicaid Nurse Aide or graduate. Delinquent accounts are subject to KCTCS Business Procedure 7.4 *Collection of Accounts Receivable* and may be referred to an outside collection agency. Note: referred accounts are subject to collection charges in addition to the amount owed the college and are the responsibility of the delinquent party. The delinquency, if referred to a collection agency, is also subject to being listed with credit reporting agencies. Specific questions may be directed to your college's business office.

## Professional Liability Insurance

Students who enroll in any course requiring patient/client contact must show evidence they have professional liability insurance or purchase insurance through the college. This charge is non-refundable and is subject to change without notice. Please contact the College Business Office for details concerning the charge for Professional Liability Insurance.

# FINANCIAL AID

## Overview

The colleges of the Kentucky Community and Technical College System (KCTCS) administer a variety of federal and state student financial aid programs, including local scholarships that are specific to an individual college or program. There is no charge to apply for student aid. Among the U.S. Department of Education Title IV programs offered are Pell Grants, Supplemental Educational Opportunity Grants (SEOG), Federal Work Study, and federally supported Federal Direct Loan Program. The colleges also participate in state supported aid programs. Detailed information regarding student financial aid can be found on KCTCS' website.

## Student Eligibility and Application

To receive student financial aid from any program in which KCTCS participates requires meeting established eligibility criteria. A listing of specific criteria can be found on KCTCS' website. In general, you must have a demonstrated need as supported by the Free Application for Federal Student Aid (FAFSA) and a high school diploma or a General Education Development (GED) Certificate. You apply for student aid electronically by using the U.S. Department of Education's Web site, (<https://studentaid.gov/fafsa-app/ROLES> (<https://studentaid.gov/fafsa-app/ROLES/>)). Applying for student financial aid is free. You will need the appropriate income tax forms for you and your spouse or you and your parents (1040, 1040 A, 1040EZ, or 1040 Telefile). If you did not file a tax return you will need documentation of all sources of income, taxed or untaxed.

It is recommended that all records and materials used in completing the application be saved. A percentage of all applicants are randomly selected by the U.S. Department of Education for a process known as verification. If selected for verification, documentation must be provided in order to receive aid. Applying early ensures consideration of your information for maximum funding and applicants are encouraged to apply as soon **after** October 1 as possible.

For questions concerning the U.S. Department of Education Title IV programs, you may contact the Federal Student Aid Information Center between 9 a.m. and 8 p.m. (Eastern Time) Monday through Friday: 1-800-4-FED-AID (1-800-433-3243) or 1-800-730-8913 TDD for hearing impaired; otherwise you can contact your local college financial aid office.

**Program Applicability:** For student's receiving federal student aid, all coursework must be applicable to the student's program of study. Students enrolled in courses that do not count toward their degree, certificate, or other recognized credential, those courses cannot be used in the determination of financial aid eligibility.

## Dual Enrollment/Consortium Agreements

In some instances, a student may take classes at different KCTCS colleges and generally count their full enrollment for financial aid purposes. If students wish to count enrollment hours from other universities towards their total enrollment specific eligibility requirements apply. Please consult your local student financial aid office for criteria.

## Federal Student Loans

KCTCS colleges participate in the Federal Direct Loan Program. Even if you do not qualify for other federal grant aid, you can still qualify

for a federal loan. To qualify, you must complete the FAFSA, entrance counseling, and a signed master promissory note. You must also be enrolled for a minimum of six credit hours.

## State Programs

The Kentucky Higher Education Assistance Authority (KHEAA) administers a number of state supported student financial aid programs. Among those offered are:

- College Access Program (CAP),
- Kentucky Educational Excellence Scholarship (KEES),
- Kentucky Work Ready Scholarship, and
- KHEAA Early Childhood Development Scholarship.

For the complete listing of aid program offerings, please see KHEAA's website: [www.kheaa.com](http://www.kheaa.com) (<http://www.kheaa.com>).

## Statutory Scholarships (Waivers) for Kentucky Residents

KCTCS by virtue of state statute offers several tuition scholarships for Kentucky residents who meet specific eligibility criteria. Included in these are scholarships for: KCTCS Faculty and Staff; Kentucky residents age 65 or older; survivors of police officers, firefighters or volunteer firefighters killed in the line of duty; survivors of police officer, firefighter, or volunteer firefighter permanently disabled in the line of duty; supervising teachers and resource teachers; foster and adopted children; veterans; and children, step-children, and/or orphans of veterans killed or disabled in action.

A more detailed overview and eligibility requirements can be found on the KCTCS Website.

## KCTCS and College Scholarships for Kentucky Residents

KCTCS and each local college also offer a number of tuition scholarships for Kentucky residents. These include:

- KCTCS Presidential Scholarship;
- John T. Smith Scholarship;
- Commonwealth Scholarship;
- Kentucky Colonels Better Life Scholarship;
- Charles E. Cranmer-Liquid Transport, Inc. Scholarship; and
- the Robert Stephen Weimann Tuition Scholarship for Non-Traditional Harlan County Residents.

For details and application information, please contact your local college's student financial aid office.

Additionally, each year, individuals, organizations and companies make funding available for scholarships to various KCTCS colleges. The amount and criteria for these awards will vary. These scholarships are advertised when available, and eligible students may apply at that time. Information is available through your local college's student financial aid office.

## College Tuition Scholarships

Each of the KCTCS institutions offer tuition scholarships. Among these scholarships are: foundation scholarships; need-based; program-specific; KCTCS Employee Spouse/Dependents; and Securing Educational Excellence in Kentucky Scholarship (SEEK). Please contact your local college for specifics.

## Third Party Assistance Programs

There are a wide number of outside agencies who offer educational assistance and other services to students. Included among them are Kentucky Department of Veterans Affairs, Kentucky National Guard, Kentucky Office of Vocational Rehabilitation, and Kentucky Office for the Blind. A more detailed listing and brief description of the programs they offer and contacts for each can be found on the KCTCS Website. Additionally, local social service agencies offer a variety of programs to assist students including the Kentucky Works (JOBS), Temporary Assistance for Needy Families (TANF), Workforce Investment Act (WIA), and AmeriCorps.

## Tax Credits

The U.S. Government grants a tax credit for eligible persons and/or their dependent attending college filing a federal tax return. The tax credits are referred to as the HOPE Tax Credit and the Lifetime Learning Tax Credit. Please contact your personal tax advisor regarding your eligibility.

## Satisfactory Academic Progress (SAP)

Federal regulations mandate that all students under Title IV programs must maintain satisfactory academic progress in their course of study regardless of whether or not student aid is awarded each term. Satisfactory Academic Progress (SAP) is measured with the following standards: Qualitative (cumulative Grade Point Average of 2.0), Quantitative (Pace progression – students must successfully complete at least 67% of the attempted coursework), and Maximum Time Frame (equals 150% of the credits for program completion).

### SAP Appeal Process

Students placed on Satisfactory Academic Progress (SAP) suspension and having unusual circumstances (illness, death in the family, accidents, etc.) have the right to appeal.

### Implications of Suspension for Financial Aid

- Students who do not wish to appeal or whose appeal is denied, may take coursework at their own expense, and may regain financial aid eligibility.
- If a student is on Academic Probation or Academic Suspension, he/she will automatically be on Financial Aid Probation or Financial Aid Suspension.
- If an Academic Suspension is removed by appeal or any means, it does not mean that the financial aid suspension is automatically removed. The student must appeal his/her Financial Aid status separately to be considered for reinstatement financial aid eligibility.

*For additional information on Satisfactory Academic Progress please contact your local financial aid office.*

### Personal Financial Liability - Withdrawing or All 'E's

Students who withdraw from college before attending over 60 percent of the semester or who stop attending and therefore receive all 'E's may be financially liable to repay the student aid received. Persons desiring to withdraw from college must do so according to their college's withdrawal policy which can be found on the school's website. A copy of the worksheet and examples used for this calculation can be requested from each KCTCS College's Office of Student Aid.



# SERVICES FOR STUDENTS

## Student and Academic Services

KCTCS colleges are structured to provide support that students need to achieve a rewarding and successful academic experience. Classes and laboratories are housed in modern structures on campuses designed to accommodate growth and development of college programs. Many classes are offered at off-campus facilities. All KCTCS colleges have bookstore services where students and faculty may obtain textbooks, as well as a variety of reading and instructional materials. Other services, facilities and opportunities are described below.

## Advising

KCTCS colleges provide advising services to students. Qualified advisors are available at KCTCS colleges and are prepared to provide individual or group career and academic advising and testing, and to assist students in setting educational and career goals.

## Career Services

Assistance with employment opportunities and job placement is available at each KCTCS college. See the career services coordinator at the college to obtain details.

## Testing

Many of the KCTCS colleges have been designated as testing centers for administering scholastic examinations. Examinations given at the colleges include the American College Test® (ACT), a Career Planning Program (CPP), WorkKeys® and correspondence study programs for other colleges and universities. Other examinations given at some of the KCTCS colleges include the GED (General Educational Development) Test, College-Level Examination Program® (CLEP), and ACT PEP (Proficiency Examination Program). Contact the local college Student Services Office for more information about examinations and testing schedules.

## Accessibility Services For Students with Disabilities

Each college has a coordinator to assist students with accommodations necessary due to their disabilities. Students with disabilities who desire academic accommodations must provide the coordinator with current documentation of their disability including evidence of the need for academic accommodations.

## Information Technology

KCTCS colleges provide computer laboratories for student utilization in accessing the Internet and other software applications required for completion of class projects and research assignments. While on campus, students have access to WiFi that can be accessed by laptop, cellular phone, or tablet. KCTCS students are eligible for free or discounted software and discounts on computer hardware by contacting their college IT department.

## Learning Laboratories

Learning laboratories help students improve their basic learning skills. Students experiencing difficulties in meeting entry-level requirements for areas such as reading, writing, and mathematics; students who want to improve their current academic performance; and students who want to review previously learned skills are among those who have found

the services provided by learning laboratories to be helpful. Learning laboratories may use a variety of techniques and materials to assist students such as: tutoring services, group work, and individualized instruction. Tests may be given to determine when students have reached a particular level of achievement. Materials include videos, individualized learning packets, programmed texts, sound pages, and computer-driven learning modules.

## Libraries

KCTCS libraries actively support student learning, faculty teaching and research, and the intellectual and cultural lives of the diverse campuses and communities they serve. They are an integral part of the teaching and learning process by providing resources and services to support the colleges' educational and enrichment goals. Libraries provide access to thousands of books, movies, periodical subscriptions, and other resources, in a variety of media and formats.

Access to the libraries' electronic collections is available through the libraries' websites, as well as through Primo, the KCTCS libraries' discovery tool. Circulation and interlibrary loan services for physical collections are available at most campus locations. KCTCS libraries are staffed with talented, experienced professionals who provide instruction and guidance to students in the evaluation and effective use of information resources. Working closely with other faculty members, KCTCS librarians are important catalysts for the instruction of information literacy. KCTCS libraries participate in the Kentucky Virtual Library (KYVL) and are members of the Federation of Kentucky Academic Libraries (FoKAL).

## Student Housing

With the exception of Bluegrass Community and Technical College, KCTCS colleges are nonresidential colleges and no housing facilities are provided.

## Ready to Work: Assistance for Low-Income Parents

Ready to Work (RTW) is a partnership between the Kentucky Community and Technical College System and the KY Cabinet for Health and Family Services, Dept. for Community Based Services. RTW is designed to assist low-income parents who are enrolling in and attending community and technical colleges in Kentucky. RTW supports their college success and completion while meeting the participation requirements of the KY Transitional Assistance Program (K-TAP) through:

- Counseling, advocacy and mentoring
- Referrals to community resources
- Job references and referrals
- Job readiness, life skills, financial coaching and academic success seminars
- Work study opportunities both on and off campus

Contact your college RTW Coordinator to determine if you are eligible for RTW services.

## Kentucky Adult Ed

If you didn't finish high school, there are free classes - at adult education centers and online - to help you earn your GED (high school equivalency diploma).



If you are a high school graduate and need to improve your reading, math or communication skills, you may be eligible for free adult education services in your choice of any Kentucky county, as well as online.

KCTCS Colleges serve as the adult education service providers in many Kentucky counties.

## Policies and Procedures Right to Know

KCTCS colleges support the intent of the Student Right to Know/ Campus Security Act and are committed to providing a safe and secure environment for all students and employees. Several approaches may be utilized for crime prevention, such as:

- Burglar alarms
- Campus security officers
- Key control system
- Light sensors
- Local police patrol
- Motion detection system
- Building checks
- Video monitor and closed circuit cameras
- Visitor control processes.

Additionally, crime prevention efforts include the dissemination of information at student orientations, faculty in-services, and student organization meetings. Conduct that violates the intent of this Act and poses an unacceptable risk to members of the community of the KCTCS college shall result in appropriate disciplinary action as defined by policy.

## Student Rights and Responsibilities

Each college within KCTCS has a varied and distinguished tradition of higher education. Each college's students, faculty, and staff form an academic community that, while sharing certain characteristics with other types of associations, organizations, and societies, is rightly considered unique as a community, and should be governed, respected, and supported as a college community. The System has an obligation to maintain an atmosphere of academic freedom, to set and maintain standards of scholarship and conduct for students at each college, and to provide awareness for responsible student citizenship in the academic community.

The Student Rights and Responsibilities may be found in the *KCTCS Code of Student Conduct*, available online at (<https://kctcs.edu/current-students/academic-resources/code-of-student-conduct.aspx>).

## Student and Family Supports

During your academic journey, it is possible that you may face challenges or barriers to academic success such as childcare or transportation issues. All KCTCS colleges are able to assist by offering direct support or referrals to services on campus or in the local community. Please reach out to the Student Services offices at your college for support.

## Diversity, Equity and Inclusion

KCTCS colleges value diversity, equity and inclusion. To ensure learning and working environments that are open, welcoming, and encourage a sense of belonging for all students, each KCTCS college employs an administrator and/or committee tasked to lead programming efforts that support learners in a variety of ways and has student-led organizations that offer opportunities to participate in and contribute to the diverse

campus environment. Contact your college Diversity or Multicultural Office to get involved.

## Drug-Free Policy

KCTCS colleges are committed to providing a safe environment for students, faculty, and staff. The KCTCS colleges have adopted the following drug-free policy:

Being under the influence of alcohol or other drugs or the use, possession, distribution, manufacture, or sale of illegal or unauthorized drugs is prohibited and is punishable as a felony offense on campus or within 1000 yards of campus. Conduct that violates this definition, poses unacceptable risks, and disregards the health; safety and welfare of members of the KCTCS college community shall result in disciplinary action up to and including suspension or termination. The KCTCS Colleges are in compliance with the Drug-Free Workplace Act of 1988 and Drug-Free Schools and Communities Act amendment of 1989.

## Sexual Harassment

KCTCS colleges are committed to providing a learning environment free from sexual harassment. All KCTCS employees and students shall avoid offensive or inappropriate behaviors. Sexual harassment - a form of sexual discrimination - includes unwelcome sexual advances, requests for sexual favors or other verbal or physical actions of a sexual nature when submission to such conduct is made explicitly or implicitly as a term or condition of the student's status in a course, program or activity; or is used as a basis for academic or other decisions affecting such student; or when such conduct has the purpose or effect of substantially interfering with the student's academic performance or creates an intimidating, hostile or offensive academic environment.

## Pregnancy Related Accommodations

KCTCS procedure 3.2P Pregnancy-Related Accommodations protects and ensures equal treatment of pregnant persons, individuals with childbirth or pregnancy-related conditions, and new parents. Students may request accommodations for pregnancy, childbirth, or related medical conditions by contacting their home school's Title IX Coordinator to discuss options. The Title IX Coordinator will work with the faculty for academic accommodations. Faculty members have a legal obligation to make reasonable accommodations for pregnant students. Neither academic freedom nor tenure obviate this legal duty.

## Grievance Procedures

Grievance procedures for students are found in the *KCTCS Code of Student Conduct*. Specific details may be obtained by visiting the KCTCS website at ( (<http://kctcs.edu>)<https://policies.kctcs.edu/code-of-conduct/index.aspx> (<https://policies.kctcs.edu/code-of-conduct/>)).

## Student Organizations

Business and industry demand that KCTCS graduates are able to function in global and team environments. Most programs include a specific organized professional development component that is interfaced with student organizations. KCTCS colleges have numerous professional (e.g. Kentucky Association of Nursing – KANS) as well as career and technical student organizations (e.g., Skills USA; Health Occupations Student Organization – HOSA; Professional Business Leaders – PBL). Contact the college's student affairs office for details and a complete list of student organizations. Following are some of the nationally recognized honor organizations and student councils available to KCTCS students.

## National Vocational Technical Honor Society

The NVTSH recognizes students who have shown qualities of leadership, scholarship, skill, responsibility, and service. Each student must have the recommendation of his or her major instructor and meet the minimum criteria. Benefits of membership include: the student's name will be included in the National Register of Vocational Technical Students of America, as well as being able to request up to three letters of recommendation written by the National NVTSH. For more information visit: [www.nths.org](http://www.nths.org) (<http://www.nths.org>).

## Phi Theta Kappa Honor Society

Phi Theta Kappa is the international honor society of two-year colleges. Each college has its own chapter of this organization. The purpose of Phi Theta Kappa is to recognize and encourage scholarship among two-year college students. To achieve this purpose, Phi Theta Kappa and its chapters provide opportunities for the development of leadership and service, an intellectual climate for exchange of ideas and ideals, lively fellowship for student scholars, and stimulation of interest in continuing academic excellence. For more information, contact the Phi Theta Kappa advisor on each campus.

## Student Government

The purpose of the student government is to provide a channel of communication whereby students can express themselves and make their views known to fellow students, faculty, and administration. The student government assists in sponsoring and regulating student activities and encourages the active participation of students in these activities. It is concerned with student involvement in all aspects of college life along with an appreciation of the privileges and responsibilities of being a college student. Members of the student government are elected representatives of the student body.

## Inter-KCTCS College Student Advisory Council

The Student Advisory Council consists of the student body president from each college. Members of this organization serve in an advisory capacity to the Associate Vice President responsible for Student Services. The Advisory Council also provides the opportunity for the student body presidents to exchange ideas on topics of mutual concern.

## Co-Curricular Activities

Co-curricular activities for students vary among KCTCS colleges. Many opportunities exist for participation in student government, newspaper or literary magazine publication, debating, speech contests, drama, orchestra, band, choral groups, college-sponsored radio and television programs, art shows, and intramural sports. Several KCTCS colleges have joint faculty-student activities such as art exhibits, bowling leagues, drama productions, and presentation and discussion of selected foreign and American films.

## FERPA

The Family Educational Rights and Privacy Act (FERPA) of 1974, as amended, is a federal law that protects the privacy and confidentiality of personally identifiable information contained within student education records. Colleges in the Kentucky Community and Technical College System comply with FERPA's confidentiality protections and adhere to procedures dealing with student education records and directory information recommended by the American Association of Collegiate Registrars and Admissions Officers.

In its discretion, a college or KCTCS as appropriate may provide Directory Information in accordance with the provisions of FERPA to include:

- student name
- address
- email address
- telephone number
- date and place of birth
- major field of study
- dates of attendance
- enrollment status (part-time or full-time)
- degrees and awards received
- the most recent previous educational agency or institution attended by the student
- participation in officially recognized activities and sports

## Privacy and Release of Student Records

Students may withhold Directory Information by notifying designated officials at the college in writing within ten (10) calendar days from the first scheduled day of class of the fall term or through their self-service student account. All written requests for non-disclosure will be honored by the college for one (1) academic year. Requests to withhold Directory Information must be filed annually thereafter or may be updated in the student's self-service student account. A request for "non-disclosure" is commonly called a "privacy request".

This is to serve notice to all students of the KCTCS of the rights and restrictions regarding the maintenance, inspection, and release of student records contained in the Family Educational Rights and Privacy Act of 1974 (FERPA). The colleges of KCTCS offer a wide variety of services to students. Each college requires the maintenance of records concerning students enrolled in that particular college. The following is a list of the types of records that may be maintained by the College and/or the System Office for students:

- Academic records from schools previously attended
- Scores or results on various standardized tests and interest/attitude inventories
- Degrees awarded
- Current academic work completed
- Grades and other faculty evaluations
- Applications for admissions
- Applications and other data related to financial aid
- Applications for employment
- Class rosters
- Letters of recommendation
- Academic advisor notes
- Attendance data
- Biographical and identifying information (including name, social security number, sex, marital status, date of birth, residency and citizenship status, ethnic background, academic major, and military status)
- Medical data
- Current student status
- Accounts relating to charges
- Academic offenses

- Disciplinary offenses
- Counseling notes

The colleges are responsible for the maintenance of records in all categories.

In general, the records maintained by the college are available only to the student, to college personnel with legitimate educational interests, a person or company with whom the College has contracted as its agent to provide a service, to other institutions where the student is seeking financial aid, and to authorized representatives of the Comptroller General of the U.S., the Secretary of the U. S. Department of Education, or an administrative head of an education agency, in connection with an audit or evaluation of federally supported programs, and as provided by Section 164.283 of the Kentucky Revised Statutes. However, information may be released by the institution to appropriate persons in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of a student or other persons. Records may be disclosed without consent to officials of another school in which a student seeks or intends to enroll.

Records may also be furnished in compliance with a judicial order or pursuant to a subpoena or with the consent of the student.

Students may inspect and review all records pertaining to them within forty-five (45) days of making requests for the same, except for

1. records created or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting or assisting in a professional capacity in connection with the treatment of the student (except that the student may have these records reviewed by a physician or appropriate professional designated by the student),
2. financial records of the parents,
3. confidential letters and recommendations put in the files prior to January 1, 1975, and
4. confidential recommendations relating to admission, application for employment, or honors, if the student waived his or her right to review such records.

Where a particular record cannot be reviewed by a student without revealing confidential information relating to other students, the records custodian will inform the student, upon request, of the contents of the record pertaining to that student.

## Appeal

A student who believes that any record maintained by the college, the college district, or the KCTCS pertaining directly to that student is inaccurate, misleading, or otherwise violates the right of privacy of the student as provided by Title IV of Pub.L.90-247, as amended, and Pub.L.93-380 as amended by Senate Joint Resolution 40 (1974), may request a hearing before a panel of three persons appointed by the President of the Kentucky Community and Technical College System. The panel may direct that appropriate action be taken to correct, explain, or expunge the record(s) challenged.

Requests for hearing should be sent to the Records Custodian and will be addressed in a timely manner. Please send appeal to:

Records Custodian  
Kentucky Community and Technical College System  
300 N Main St  
Versailles, KY, 40383

# ACADEMIC SERVICES

## Introduction

KCTCS colleges offer the Associate in Arts (AA), the Associate in Science (AS), and the Associate in Fine Arts (AFA) degree programs which allow students to tailor and complete a general course of study to meet their interests and to fulfill the general education requirements of the first two years of bachelor degree programs; Associate in Applied Science (AAS) occupational/technical degree programs to meet workforce needs and which may be transferable to a bachelor degree; occupational/technical diplomas and certificates that are also aligned with workforce needs; dual credit courses for high school students; and continuing education and community service opportunities.

All students are encouraged to utilize the advising and transfer services available to complete programs of study at KCTCS, and to plan for lifelong and continuing education to support academic and career goals. Advising and transfer services are available to help facilitate students' progress and success.

- Academic Advising (p. 77)
- General Education Certifications (p. 77)
- Transfer to Baccalaureate Institutions and Credit for Prior Learning (p. 77)
- Non-Classroom Learning Experiences (p. 81)
- Academic Policies and Rules (p. 81)
- Academic Credentials Awarded (p. 83)
- General Education Requirements (p. 87)

## Academic Advising

Academic advising is an important component for a successful educational experience and is available to all KCTCS students. Whether you are seeking credentials exclusively from KCTCS or plan to transfer to another institution, academic advising is critical. Advisors strive to assist you with obtaining accurate information about academic requirements, long- and short-term educational planning, and resources available to assist transfer and/or professional goals. Students should contact an advisor at their college as soon as possible to receive help reaching your goals. In addition to working with a college advisor, you can also refer to the KCTCS Transfer web site (<https://kctcs.edu/education-training/transfer/>).

Although academic advisors provide assistance, students are responsible for knowing institutional policies, procedures, requirements, and seeking out assistance when needed.

## General Education Certifications

Students with defined professional/career goals requiring a bachelor's degree may choose to begin their education at a community college then transfer to any four-year college or university. The General Education Transfer Policy is in place between all public colleges and universities in Kentucky, and the KCTCS policy regarding general education certification is outlined in the KCTCS Rules of the Senate, Section V 5.0.4.

## Fully General Education Certified

Students who have successfully completed a general education program of 33 credit hours (a minimum of 15 hours completed with KCTCS) will

be "fully general education certified". Students may then transfer these hours altogether as a block. Students must fulfill any additional pre-major requirements of the receiving institution that have not been satisfied through the courses included in the full General Education certification.

## Category Certification

Students who have successfully completed only some categories in the 33-credit hour component will be certified for those categories they complete. For example, a student who has completed the six-hour Arts & Humanities requirement of the AA/AS degree may be certified as having met the General Education Transfer Policy's six-hour Arts & Humanities requirement. Students with "category" certification and/or additional coursework must fulfill the remaining general education requirements for the bachelor degree program.

If you have questions about the General Education Transfer Policy, please contact your college's Transfer Contact. Completed general education certifications are automatically printed on the official transcript. If the requirements for certification have been completed, but the appropriate certification is not printed on the transcript, contact the college registrar's office to request the appropriate certification be added to your transcript and request an additional transcript including the certification.

## Transfer to Baccalaureate Institutions and Credit for Prior Learning

Transfer is the procedure by which credit hours students earn at one institution are applied toward a degree at another institution. The Associate in Arts and the Associate in Science degrees at KCTCS are transfer degrees, made up of 60 credit hours of general education course work and electives that can make up the first two years of a bachelor's degree. All students are encouraged to complete an associate degree at KCTCS prior to transferring to a four-year institution. Students who transfer before earning a degree are encouraged to become General Education Certified first. KCTCS has developed several pathways and transfer agreements to help students complete an associate's degree and then seamlessly transfer to a bachelor's degree program at a four-year institution, both in and out of state. Those agreements are available at the Transfer Guide Section on the KCTCS Transfer Web Page (<https://kctcs.edu/education-training/transfer/>).

## Transfer Contacts and Services

There are a staff available to assist students with information and assistance for transfer at each KCTCS college and four-year institutions. Students who are interested in transferring, or just have questions about transferring are encouraged to seek information as soon as possible.

KCTCS contacts are available in the Contact Section of the KCTCS Transfer Web Page (<https://kctcs.edu/education-training/transfer/>).

## Credit for External Experiences and Prior Learning

KCTCS colleges recognize that valid college-level learning experiences occur outside the traditional classroom setting. Colleges will assist students in recognizing appropriate external experiences and applying them toward a KCTCS credential. Colleges reserve the right to validate



student competence through the variety of mechanisms described in this section.

1. Advanced Placement (AP) Program

KRS 164.098 requires Kentucky Institutions to award credit for scores of 3 or higher on the Advanced Placement Tests. KCTCS colleges participate in the Advanced Placement Program of the College Entrance Examination Board. Interested students should have their official examination results sent to the Admissions Office of their local KCTCS College. Students are responsible for providing a transcript of AP credits earned.

2. Articulation Agreements

Articulation agreements provide a mechanism to accept and award credit for courses that will transfer toward a credential. Articulation agreements specify the terms and conditions for courses taken at other institutions that will apply to a KCTCS credential, and/or the terms and conditions for courses taken at KCTCS that will apply to credentials or degree programs at other institutions. In either case, the award of applicable credit to the credential is subject to the specific terms of each agreement and all requirements specified in the agreement must be met before credit can be awarded. For information about articulation agreements for KCTCS credentials, contact the college Student Records Office.

3. College Level Examination Program (CLEP)

KCTCS colleges accept the General and Subject Examinations of the College Level Examination Program (CLEP). The Subject Examinations cover specific material which is common to courses in many colleges and universities. The level of proficiency to earn credit through CLEP is approximately equivalent to that required to earn a "C" in the course. Students are responsible for providing a transcript of CLEP credits earned.

4. Military Service Experience

A student may receive course credit in recognition of collegiate-level credit completed through DSST (DANTES Subject Standardized Tests). To receive course credit for successful DSST exams, the student must have received a minimum standard score of 46. Credit will be given only upon receipt of an official DSST score report or transcript. A student may receive course credit where appropriate and equivalent courses are available for formal military training as recommended in A Guide to the Evaluation of Educational Experiences in the Armed Services (ACE Guide), published by the American Council on Education (ACE).

5. Special Exam: STEP (Special Technical Education Proficiency) or Challenge

Institutionally developed and administered exams provide an opportunity to demonstrate mastery of course content and receive credit toward program requirements. The student must be accepted for admission and enrolled in the college and apply for the exam through the Student Records Office. For more information, see "Tuition and Charges." A STEP test is a method for students to earn credit in technical courses by assessing learning acquired through non-college experiences. Challenge exams provide students the opportunity to test out of courses that are not required for the program but are prerequisites for the higher-level required program courses.

6. Portfolio - Prior Learning Assessment (PLA)

Prior Learning Assessment Portfolio students may contact any KCTCS college for information regarding applications for college credit via portfolio. For more information, see "Tuition and Charges."

7. Non-Classroom Learning Experiences

• Work-Based Learning Experiences

Many of the diploma and degree programs offered through the colleges have Work-Based Learning included in the curriculum. Work-Based Learning refers to the programs that offer academic credit for degree-related work experience during a specific semester. The experiences and credit awarded vary according to the program's requirements. These experiences must be planned and supervised by the college and the employer to ensure that the work experience contributes to the student's education and career objective. The cornerstone of Work-Based Learning is Cooperative Education. Other programs that are considered part of Work-Based Learning are Internships, Practicums and Experiential Learning. These courses afford the student a unique opportunity to integrate formal classroom training with supervised work experience.

• Service-Learning

Students have the opportunity to enroll in service-learning programs which are designed to integrate community service with academic instruction as it focuses on critical and reflective thinking and civic responsibility. Service-learning programs involve students in organized community service that addresses local needs, while developing academic skill, sense of civic responsibility and commitment to the community.

## Standards for Awarding Credit for Prior Learning

KCTCS Colleges utilize credit for learning experiences in industry, business and government as recommended by the American Council on Education (ACE). The recommendations for awarding credit appear in The National Guide to Educational Credit for Training Programs, published by the ACE. KCTCS Colleges utilize best practices and standards provided through the Council on Adult and Experiential Learning (CAEL) when awarding credit for prior learning.

## Guidelines for Advanced Placement Credit

AP Subject Examination	Scaled Score to Earn Credit	Equivalent Course	Credit Hours
AP Research Capstone	3-5	Elective Credit <sup>1</sup>	3 credit hours
AP Seminar Capstone	3-5	Elective Credit <sup>1</sup>	3 credit hours
Art History	3	ART 105 or ART 106	3 credit hours
	4-5	ART 105 and ART 106	6 credit hours
Biology	3-5	BIO 112	3 credit hours
Calculus AB	3-5	MAT 175	5 credit hours
Calculus BC	3-5	MAT 175 and MAT 185	10 credit hours
Chemistry	3	CHE 170	4 credit hours
	4-5	CHE 170 and CHE 180	8 credit hours
Chinese Language and Culture	3	RAE 150	4 credit hours



	4-5	RAE 150 and RAE 151	8 credit hours
Comparative Government and Politics	3-5	POL 210	3 credit hours
Computer Science A	3	Elective Credit <sup>1</sup>	3 credit hours
	4-5	CIT 149	3 credit hours
Computer Science Principles	3-5	Elective Credit <sup>1</sup>	3 credit hours
English Literature/ Composition	3-5	ENG 161	3 credit hours
English Language/ Composition	3-5	ENG 101	3 credit hours
Environmental Science	3-5	EST 150	4 credit hours
European History	3-5	HIS 104 and HIS 105	6 credit hours
French Language	3	FRE 201	3 credit hours
	4-5	FRE 201 and FRE 202	6 credit hours
German Language	3	GER 201	3 credit hours
	4-5	GER 201 and GER 202	6 credit hours
Human Geography	3-5	GEO 172	3 credit hours
Italian Language and Culture	3	Elective Credit <sup>1</sup>	3 credit hours
	4-5	Elective Credit <sup>1</sup>	6 credit hours
Japanese Language and Culture	3	JPN 201	3 credit hours
	4-5	JPN 201 and JPN 202	6 credit hours
Latin: Vergil	3	Elective Credit <sup>1</sup>	3 credit hours
	4-5	Elective Credit <sup>1</sup>	6 credit hours
Microeconomics	3-5	ECO 201	3 credit hours
Macroeconomics	3-5	ECO 202	3 credit hours
Music Theory	3-5	MUS 174	3 credit hours
Physics 1	3-5	PHY 201 <sup>2</sup>	4 credit hours
Physics 2	3-5	PHY 203 <sup>2</sup>	4 credit hours
Psychology	3-5	PSY 110	3 credit hours
Spanish Language	3	SPA 201	3 credit hours
	4-5	SPA 201 and 202	6 credit hours
Spanish Literature	3-5	Elective Credit (humanities) <sup>1</sup>	3 credit hours
Statistics	3-5	STA 220	3 credit hours
Studio Art 2-D Design	3-5	ART 112	3 credit hour
Studio Art 3-D Design	3-5	ART 113	3 credit hours

Studio Art – Drawing	3-5	ART 110	3 credit hours
US Government & Politics	3-5	POL 101	3 credit hours
US History	3-5	HIS 108 and HIS 109	6 credit hours
World History - Modern	3-5	HIS 102	3 credit hours

<sup>1</sup> KCTCS does not offer courses that are an exact equivalent for the AP subject offered. Appropriate General Education or technical elective credit is awarded in these cases.

<sup>2</sup> Upon presentation of documentation of appropriate laboratory experience, credit will also be given for the laboratory portions of these courses.

## American Council on Education

Students may receive credit for learning experiences in industry, business and government as recommended by the American Council on Education (ACE). The recommendations for awarding credit appear in The National Guide to Educational Credit for Training Programs, published by the ACE.

## Articulation Agreements

Articulation agreements provide a mechanism to accept and award credit for courses that will transfer toward a credential. Articulation agreements specify the terms and conditions for courses taken at other institutions that will apply to a KCTCS credential, and/or the terms and conditions for courses taken at KCTCS that will apply to credentials or degree programs at other institutions. In either case, the award of applicable credit to the credential is subject to the specific terms of each agreement and all requirements specified in the agreement must be met before credit can be awarded. For information about articulation agreements for KCTCS credentials, contact the college Student Records Office.

## College Level Examination Program (CLEP)

KCTCS colleges accept the General and Subject Examinations of the College Level Examination Program (CLEP). The Subject Examinations cover specific material which is common to courses in many colleges and universities. The level of proficiency to earn credit through CLEP is approximately equivalent to that required to earn a “C” in the course.

### Guidelines for CLEP General Examinations

CLEP Subject Examination	Scaled Score to Earn Credit	Equivalent Course	Credit Hours
<b>Foreign Languages</b>			
College Level French Language	50-65	FRE 201	3
College Level French Language	66 or above	FRE 201, FRE 202	6
College Level German Language	50-65	GER 201	3
College Level German Language	66 or above	GER 201, GER 202	6

College Level Spanish Language	50-65	SPA 201	3
College Level Spanish Language	66 or above	SPA 201, SPA 202	6
<b>History and Social Sciences</b>			
American Government	50 or above	POL 101	3
History of the United States I	50 or above	HIS 108	3
History of the United States II	50 or above	HIS 109	3
Introductory Psychology	50 or above	PSY 110	3
Principles of Macroeconomics	50 or above	ECO 202	3
Principles of Microeconomics	50 or above	ECO 201	3
Introductory Sociology	50 or above	SOC 101	3
Western Civilization I: Ancient Near East to 1648	50 or above	HIS 104	3
Western Civilization II: 1648 to the Present	50 or above	HIS 105	3
Social Sciences and History	50 or above	SOC 101	3
Human Growth and Development	50 or above	AHS 100	2
<b>Science and Mathematics</b>			
Calculus	50 or above	MAT 174 or MAT 175	4, 5
College Mathematics	50 or above	MAT 146	3
College Algebra	50 or above	MAT 150	3
Pre-calculus	50 or above	MAT 160	5
Biology	50-59	BIO 112	3
Biology	60-64	BIO 120, BIO 112	6
Biology	65-80	BIO 150, BIO 152	6
Chemistry	50 or above	CHE 170, CHE 180	8
Natural Sciences	50 or above	BIO 112	3
<b>Business and Computer Applications</b>			
Financial Accounting	50 or above	ACC 201	3
Principles of Management	50 or above	BAS 283	3
Principles of Marketing	50 or above	BAS 282	3

Introduction to Business Law	50 or above	BAS 267	3
Information Systems	50 or above	Elective Credit	3
<b>English and Humanities</b>			
American Literature	50 or above	ENG 251	3
Analyzing and Interpreting Literature	50 or above	ENG 161	3
English Literature	50 or above	ENG 161	3
Humanities	50 or above	HUM 120	3
College Composition, College Composition Modular	50 or above	ENG 101	3

## Guidelines for International Baccalaureate (IB)

IB Course	Score	Credit Awarded	Credit Statement
Biology HL	4	BIO 152	3 credit hours
Biology SL	4	BIO 112	3 credit hours
Chemistry HL	4	CHE 170, CHE 180	8 credit hours
Chemistry SL	4	CHE 140	3 credit hours
English A: Literature HL	4	ENG 101	3 credit hours
French B HL	5	FRE 201, FRE 201	6 credit hours
French B SL	5	FRE 101, FRE 102	8 credit hours
History HL	5	HIS 108, HIS 109	6 credit hours
Mathematics HL	5	MA 113	4 credit hours
Mathematics SL	5	MAT 170	3 credit hours
Math Studies SL	5	Technical Math Elective	3 credit hours
Music SL/HL	4	MUS 100	3 credit hours
Physics SL/HL	5	PHY 201 <sup>1</sup>	4 credit hours
Psychology SL	4	PSY 110	3 credit hours
Spanish B HL	5	SPA 201, SPA 202	6 credit hours
Spanish B SL	5	SPA 101, SPA 102	8 credit hours
Theatre Arts HL/SL	4	THA 101	3 credit hours
Visual Art HL/SL	4	ART 100	3 credit hours

<sup>1</sup> Upon presentation of documentation of appropriate laboratory experience, credit will also be given for the laboratory associated with this course, PHY 202 College Physics I Laboratory (1 credit hours).

## Industry Standard Certification Examinations

### Military Service Experience

A student may receive course credit in recognition of collegiate-level credit completed through DSST (DANTES Subject Standardized Tests).

To receive course credit for successful DSST exams, the student must have received a minimum standard score of 46. Credit will be given only upon receipt of an official DSST score report or transcript. A student may receive course credit where appropriate and equivalent courses are available for formal military training as recommended in A Guide to the Evaluation of Educational Experiences in the Armed Services (ACE Guide), published by the American Council on Education.

### Special Exam: STEP or Challenge

Institutionally developed and administered exams provide an opportunity to demonstrate mastery of course content and receive credit toward program requirements. The student must be accepted for admission and enrolled in the college and apply for the exam through the Student Records Office. For more information, see "Tuition and Charges."

## Non-Classroom Learning Experiences

### Work Based Learning Experiences

Many of the diploma and degree programs offered through the colleges have Work Based Learning included in the curriculum. Work Based Learning refers to the programs that offer academic credit for degree-related work experience during a specific semester. The experiences and credit awarded vary according to the program's requirements. These experiences must be planned and supervised by the college and the employer to ensure that the work experience contributes to the student's education and career objective. The cornerstone of Work Based Learning is Cooperative Education. Other programs that are considered part of Work Based Learning are Internships, Practicums, and Experiential Learning. These courses afford the student a unique opportunity to integrate formal classroom training with supervised work experience.

### Service Learning

Students have the opportunity to enroll in service learning programs which are designed to integrate community service with academic instruction as it focuses on critical and reflective thinking and civic responsibility. Service learning programs involve students in organized community service that addresses local needs, while developing academic skill, sense of civic responsibility, and commitment to the community.

### Credit for Prior Learning

Prior Learning Assessment Portfolio students may contact any KCTCS college for information regarding applications for college credit via portfolio.

## Academic Policies and Rules

### Policies Related to Enrollment

#### Student Load – Full-time Status

Full-time student academic status for the fall and spring term is 12 credit hours. Full-time student academic status for the summer term is 6 credit hours.

#### Student Load – Maximum Student Load

The maximum load to be carried during any semester by a student (including residence, correspondence, and extension courses) is 19 credit hours or the number of hours specified in the curriculum for the particular semester, whichever is larger.

A student who has attained a grade-point average of 3.0 on a load of at least 15 credit hours for the preceding semester may be permitted by the college president (or designee) to carry a maximum of three additional credit hours, provided the total is not in excess of 22 credit hours for the semester.

Normally, the maximum course load (including residence, correspondence, and extension courses) shall be four credit hours for the four-week intersession, six hours for the five-week session, seven credit hours in a six-week session, or 10 credit hours in the eight-week summer session. A student who has attained a grade point average of 3.0 may be granted permission by the college president (or designee) to carry a maximum of five hours in a four-week session, seven hours in the 5-week session, eight hours in a six-week session, 12 hours in an eight-week session, and fifteen hours in the twelve-week session.

A student on academic probation shall not take more than 15 credit hours in a semester, three credit hours in a four-week intersession, four hours in the five-week session, six credit hours in a six-week summer session, seven credit hours in an eight-week summer session and nine hours in the twelve-week session.

A student may be registered simultaneously at a KCTCS college and at another institution only with the approval of the college president (or designee), the credit hours obtained at the other institution being considered a part of the student's maximum load. If the simultaneous registration has not been authorized, the transfer of credit from the other institution may be denied.

### Grading System

The grading system uses a series of letters, to which are assigned grade-point values. The system is based neither on an absolute numerical system nor on a distribution curve, but on the following descriptions:

**A:** represents exceptionally high achievement. It is valued at four grade points for each credit hour in non-remedial and non-developmental courses.

**B:** represents high achievement. It is valued at three grade points for each credit hour in non-remedial and non-developmental courses.

**C:** represents satisfactory achievement. It is valued at two grade points for each credit hour in non-remedial and non-developmental courses.

**D:** represents the minimum achievement for credit. It is valued at one grade point for each credit hour in non-remedial and non-developmental courses.

**E:** represents unsatisfactory achievement and indicates failure in the course. It is valued at zero credit hours and zero grade points in non-remedial and non-developmental courses. Credit may be obtained by repeating the entire course.

**F:** represents unsatisfactory achievement in a course taken on a Pass-Fail basis. It has no value in computing the grade point average. Credit may only be obtained by repeating the entire course. This grade may be used for developmental courses.

**AU (Audit):** has no value in computing grade-point average. A student who has been admitted to the college may elect to enroll in a course(s) as an auditor, except in selective admissions programs. Auditing courses in a selective admissions program requires admission to the program and availability of space in the courses. With few exceptions, any change from audit to credit by a student fully admitted to a college must be

accomplished by the last date to enter a class and any change from credit to audit must be made by mid-term of the semester or session in which the student is enrolled. An audited class may be taken for credit at a later date. Anyone who desires to audit a class must be admitted to the college and officially registered for the course.

**I:** means that part of the work of the course remains unfinished. It shall be given only when there is a reasonable possibility that a passing grade will result from completion of the work. The instructor and student will discuss the requirements for completion of course with the time limit for completion not to exceed a maximum of one year; failure to do so will result in an automatic change of grade from I to E. Each college shall maintain a record of incomplete grades recorded in courses of that college. This record, completed by the instructor at the time the I grade is reported, shall include:

1. the name and number of the student,
2. the course number and hours of credit,
3. semester or session and year of enrollment,
4. signature of the instructor,
5. a brief statement of the reason(s) for recording the incomplete grade, and
6. an adequate guide for removal of the incomplete grade.

In the instructor's absence, the division chairperson (or designee), shall forward to the college president (or designee) the appropriate letter grade to replace the incomplete grade.

**IP:** In Progress represents enrollment in a course for which there is no expectation the work will be completed during the assigned term. (i.e. a course whose end dates exceeds the end date of the standard term). The notation will be assigned at the end of the enrollment term to indicate the course work continues and will be completed in the next term. Students will only be enrolled in one (1) term even if the course continues beyond the term. When final grades are reported the IP notation will be replaced with the final grade.

**W:** represents a withdrawal from class without completing course requirements. A student may officially withdraw from any class up to and including the date of mid-term with a W grade. After the date of mid-term and through the last class of the semester or session, any student may officially request to withdraw from a course and receive a W which may be given at the discretion of the instructor. Each instructor shall state on the first or second class meeting the factors to be used in determining if a student will be allowed to withdraw during the discretionary period. An instructor shall not assign a student a W for a class unless the student has officially withdrawn from that class in a manner prescribed by the college. The grade of W may be assigned by the College Appeals Board in cases involving a violation of student academic rights or for academic offenses.

**P:** represents a satisfactory grade in a course taken on a Pass-Fail basis. The student who receives a P in a course shall be eligible to continue into the next sequential course(s). The grade of P may be assigned by the College Appeals Board in cases involving a violation of student academic rights. It has no value in computing the grade point average. This grade may be used for developmental courses.

**MP:** represents Making Progress and may be assigned only for developmental courses and means that the student has made significant progress but needs and deserves more time to achieve a passing grade. The student should re-enroll in the course in order to continue advancement to the level of competence set for the course. Grades may

be earned following re-enrollment for developmental courses. The grade of MP has no value in computing grade point average.

**Pass/Fail:** may be selected for a maximum of two elective courses, subject to certain restrictions, by students with at least 30 credit hours and not on academic probation. Courses with these grades can count toward graduation but are not used in calculating grade-point standing. Courses taken on a pass-fail basis shall be limited to those considered as elective in the student's program, and such other courses or types of courses as might be specifically approved. Prerequisites for such courses may be ignored at the student's own hazard. The student is expected to participate fully in the course and take all examinations as though the student were enrolled on a regular basis. Students may not change from a pass-fail basis nor from a regular basis to a pass-fail basis after the last date for entering an organized class. Courses offered only on a pass-fail basis, remedial or developmental, or taken by special examination, shall not be included in the maximum number of elective courses which a student may take under these provisions.

**Changing Grades:** A grade once reported shall not be changed except when the instructor states in writing that an error has been made. The grade change must be submitted by the end of the following semester or session or, in exceptional cases, at the discretion of the president (or designee). However, each respective College Appeals Board may change a grade to P or W in the case of a violation of student academic rights or to a W in the case of an academic offense.

**Grade-Point Average (GPA):** The GPA on the KCTCS transcript is derived from all courses taken at KCTCS institutions. The grade-point average is the ratio of the total grade points earned to the total credit hours attempted excluding courses taken on a pass/fail basis and courses with grades of W, I, or IP. Total grade points are derived by multiplying the number of credit hours for the course by the number of grade points assigned to the grade earned: A = 4, B = 3, C = 2, D = 1, E = 0.

**Reporting Final Grades:** The final grades for a course shall be filed with the office of the college president (or designee) by such date as determined by the academic calendar.

## Academic Probation, Academic Suspension, and Reinstatement

**Academic Probation:** A student earning a cumulative grade point average below a 2.0 at the end of a term shall be placed on academic probation. A student shall be removed from academic probation by earning at least a 2.0 cumulative grade point average.

**Academic Suspension (Dismissal):** If a student is placed on academic probation for two consecutive terms (which is noted on the transcript as "subject to dismissal" the second time) and does not earn either a cumulative GPA or a term GPA of at least a 2.0 in the third term, the student shall be academically suspended. Non-enrollment has no effect on probation status. The president (or designee) may grant an exception based upon an individual's case. A student on academic suspension may not enroll in courses which count toward a KCTCS degree.

**Reinstatement:** A student who has been academically suspended may be reinstated by the president (or designee) after remaining out of the college for at least one 16-week semester and providing evidence of ability to perform at the level required. A student who has been academically suspended shall, upon reinstatement, be placed on academic probation and be subject to academic suspension if the student has failed to earn a current term GPA of 2.0 during the first term of reinstatement. Upon a second suspension, a student may be



reinstated by the president (or designee) after remaining out of the college for at least two 16-week semesters and providing evidence of ability to perform at the level required.

## Repeating a Course

A student may repeat a course for the purpose of improving a grade. The course must be repeated with the same grade option as the original enrollment in the course. The highest grade earned in a completed course shall constitute the official grade for the course and will be the only grade included within the cumulative GPA. Credit shall count only once for a KCTCS credential. If a student has been dropped from an occupation or technical program, course enrollment may be dependent upon readmission to the program. After a student has completed the same course twice, a division chair (or designee) in consultation with the instructor may refuse to approve a third registration in the same course, including those offered by correspondence, extension, and distance learning technology. Subject to the approval of the division chair (or designee), a student may receive approval for a substitution of comparable courses (e.g. MAT 146 Contemporary College Mathematics (3 credit hours) may be taken as a repeat option for MA 111U Contemporary Mathematics (3 credit hours) and vice versa.).

**Note:** A parent course cannot be repeated using modules. Students who have received passing grade in a parent course are not eligible to enroll in any module of that parent course.

## Final Exams

Any student with more than two exams scheduled on one day as described in the college's final exam schedule shall be entitled to have one of those exams rescheduled. The student must submit a petition for rescheduling in writing to the instructor no later than one week prior to the last class meeting.

## Dean's List

The Dean's List recognizes the academic excellence of students who have earned an overall semester GPA of 3.5 or higher in courses numbered 100 or above. Honorary certificates of merit are generally awarded to students who have achieved this distinction.

## Academic Bankruptcy (Readmission after Two or More Years)

A student who has been readmitted after having remained out of the KCTCS colleges for a period of two or more years, and who has completed at least 12 credit hours in college-level courses with a GPA of 2.0 or better after readmission, may choose to have none of the course work attempted in the colleges prior to the interruption included in the computation of the student's GPA. The calculation of the GPA after the student declares bankruptcy begins with the semester of readmission. A student who has elected not to count past work in the computation of his or her GPA will continue to receive credit for those courses in which credit was earned with a grade of A, B, C, D, or P prior to readmission, without including those grades in the computation of the student's GPA. A student who has completed a credential and re-enrolls may not apply the academic bankruptcy rule to courses taken for the credential already completed. A student may only use the academic bankruptcy option once.

## Policies Related to Graduation

### Graduation Requirements

For all KCTCS degrees (the Associate in Arts, Associate in Science, Associate in Fine Arts, and Associate in Applied Science degrees)

diplomas, and certificates, students must complete at least 25 percent of the approved curriculum credits at the KCTCS college granting the credential, regardless of the time the student has attended the college. Students must complete the college's application for graduation within the posted deadline for the term.

### Additional Requirements

- Associate in Arts, Associate in Science, Associate in Fine Arts, and Associate in Applied Science degrees: students must satisfactorily complete 60 credits, including the general education requirements as specified in the KCTCS Board of Regents Policies 4.11 and 4.12 and program requirements, with a cumulative grade point average of at least 2.0.
- Diplomas: students must satisfactorily complete a minimum of 36 hours including the general education requirements as specified by the KCTCS Board of Regents Policies 4.11 and 4.12 and program requirements, with a cumulative grade point average of at least 2.0.
- Certificates: students must satisfactorily complete an approved curriculum with a grade point average of at least 2.0 in the courses required for the certificate.
- Course substitutions may be made by the college president (or designee) on an individual basis with the advice of the appropriate division chairperson.

Specific information about the requirements for these programs is available on the next page in the Academic Credentials Awarded section.

## Graduation With Honors

Students who have completed at least 45 credit hours of work toward degree completion or 30 credit hours of work toward diploma completion in the KCTCS colleges shall be graduated "With High Distinction" if they attain a grade-point average of 3.60 or higher on all work attempted. Students who have completed at least 45 credit hours of work toward degree completion or 30 credit hours of work toward diploma completion in the KCTCS colleges shall be graduated "With Distinction" if they attain a GPA of 3.40-3.59 on all work attempted.

## Multiple Associate Degrees

A student will be eligible for an additional degree when the student has completed the requirements of the second curriculum including a minimum of six credit hours relevant to the second degree and beyond the requirements for the first degree. In no case will a degree be granted for the completion of a second option in a program. The completion of a second track, however, will be recorded on the transcript.

## Academic Credentials Awarded

### Associate in Arts (AA) and Associate in Science (AS)

Requirements	AA (2401015000)	AS (2401016000)
<b>General Education Core Requirements</b>		
Written Communications <sup>1</sup>	6 credit hours	6 credit hours
Oral Communications	3 credit hours	3 credit hours



Arts and Humanities - One course must be selected from Humanities and one course from Heritage.	6 credit hours	6 credit hours
Quantitative Reasoning	3 credit hours	6 credit hours
Natural Sciences - One science course must include a laboratory experience.	3 credit hours	6 credit hours
Social and Behavioral Sciences - Two disciplines must be represented and different from those in the Arts and Humanities category.	9 credit hours	6 credit hours
Quantitative Reasoning or Natural Sciences	3 credit hours	
<b>Subtotal General Education Core</b>	<b>33 credit hours</b>	<b>33 credit hours</b>
<b>Associate in Arts Requirements</b>	<b>6 credit hours</b>	
Six (6) credit hours must be selected from Arts and Humanities and/or Social and Behavioral Sciences and/or Oral Communications and/or Foreign Language. Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring.		
<b>Associate in Science Requirements</b>		<b>6 credit hours</b>
Six (6) credit hours must be selected from Quantitative Reasoning and/or Natural Sciences. Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring.		
<b>Electives</b> - Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring.	<b>21 credit hours</b>	<b>21 credit hours</b>
<b>Total Credit Hours</b>	<b>60 credit hours</b>	<b>60 credit hours</b>

<sup>1</sup> Students who complete ENG 105 Writing: An Accelerated Course (3 credit hours) must take an additional 3 credit hours of General Education from any of the General Education categories.

## Degree Requirements

1. Completion of a minimum of 60 credit hours,
2. Minimum cumulative 2.0 GPA,
3. Minimum of 15 credit hours earned at the institution awarding the degree,
4. Cultural Competence course,
5. Demonstration of digital literacy, and
6. Completion of a college success course or equivalent.

Courses chosen to satisfy General Education requirements must be selected from an approved list which may be found in Academic Services - General Education Requirements (p. 87).

A course used to fulfill one category cannot be used to fulfill another category.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

The General Education Transfer Policy is in place between all public colleges and universities in Kentucky, and the KCTCS policy regarding general education certification is outlined in the KCTCS Rules of the Senate, Section V 5.0.4.

## Associate in Fine Arts (AFA)

An Associate in Fine Arts (AFA) degree is designed to transfer into a Baccalaureate of Fine Arts (BFA) program at a four-year institution. It consists of a general education requirement of 24 credit hours, a fine arts core of 18 credit hours, and 18 additional credit hours of concentration for a 60 credit hour minimum.

Course	Title	Credits
<b>General Education Component</b>		
Written and Oral Communications <sup>1</sup>		9
Arts and Humanities - The course chosen to satisfy this requirement must be from a discipline other than the discipline in the Fine Arts Core and/or concentration.		3
Quantitative Reasoning		3
Natural Sciences - Must include a laboratory experience for general education certification in the Natural Sciences category.		3
Social and Behavioral Sciences		6
<b>Total General Education</b>		<b>24</b>
<b>Fine Arts Core Sub-total</b>		<b>18</b>
<b>Concentration Sub-total</b>		<b>18</b>
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> Students who complete ENG 105 Writing: An Accelerated Course (3 credit hours) must take an additional 3 credit hours of General Education from any of the General Education categories to fulfill the remaining hours in the Written Communication portion of this requirement.

## Degree Requirements

1. Completion of minimum of 60 credit hours,
2. Minimum cumulative 2.0 GPA,
3. Minimum of 15 credit hours earned at the institution awarding the degree,
4. Cultural Competence course, and
5. Demonstration of digital literacy.

Courses chosen to satisfy General Education requirements must be selected from an approved list which may be found in Academic Services - **General Education Requirements**.

A course used to fulfill one category cannot be used to fulfill another category.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

## Associate in Applied Science (AAS)

Course	Title	Credits
<b>General Education Component</b>		
A student must complete a minimum of 15 credit hours to fulfill the general education requirement. General education credits must meet the following distribution:		
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Written Communication		3
General Education Subtotal		15
The above are minimum general education requirements; additional hours may be required in specific program curricula.		
<b>Technical and Support Component</b>		
General Education and Technical and Support Components must be distributed so that programs do not exceed 68 credit hours.		
<b>Total Credits</b>		<b>60-68</b>

AAS degree programs should incorporate multiple exit points, i.e. awarding certificates and diplomas, when possible.

## Degree Requirements

1. Minimum cumulative GPA of 2.0,
2. Minimum of 25% of credit hours required for the degree must be earned at the institution awarding the degree, and
3. Demonstration of digital literacy.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

## Diploma

A diploma program is designed to prepare students for technical employment within a one to two-year period (36-60 credit hours). The total number of credit hours for the diploma must not exceed those required for a degree in the same program of study. A prescribed program of technical and general education courses is designed to prepare students for a specific job title. Diploma programs provide preparation for a specific occupation, credit toward an associate degree, and continued training opportunities for certificate program graduates. The diploma

program contains general education courses emphasizing the skills identified in the SCANS (Secretary's Commission on Achieving Necessary Skills) report that are critical to entry-level workforce success for persons prepared at the diploma level.

1. Diplomas will address appropriate general education competencies.
2. Diploma curricula will be approved through the KCTCS Curriculum process.
3. Diplomas will be applicable toward at least one associate degree. (Courses designated "Diploma Only" on the General Education list will not apply toward an Associate Degree)
4. General Education Requirement of 6 hours in Area 1 (Written/Oral Communications, Humanities or Heritage) and Area 2 (Social Behavioral Sciences, Natural Sciences, or Quantitative Reasoning)

Course	Title	Credits
General education 6 credit hour requirement for diplomas in areas 1-2 as follows:		
Area 1: Written/Oral Communications, Humanities, or Heritage		3
Area 2: Social/Behavioral Sciences, Natural Sciences, or Quantitative Reasoning		3
Additional courses could be used for other areas in approved curricula for diplomas but may not meet general education transfer requirements.		
The above are minimum general education requirements; additional hours may be required in specific program curricula.		
<b>Technical &amp; Support</b>		
The Technical and Support requirements must include a work experience component of 1-12 credit hours.		30-54
<b>Total Credits</b>		<b>36-60</b>

Graduation requirements include

1. Minimum cumulative GPA of 2.0,
2. Demonstration of digital literacy, and
3. Minimum of 25% of diploma requirements must be earned at the institution awarding the diploma.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

## Certificate

The primary purpose and features of certificate programs of study are to provide marketable, entry-level skills. Certificates qualify students to take external licensure, vendor-based, or skill standards examinations in the field. If standardized external exams are not available in the field of study, certificates prepare students at skill levels expected of employees in an occupation found in the local economy.

Requirements for a certificate are applicable to the requirements of a diploma or associate degree in the same or a related field of study. Requests for exceptions must include appropriate documentation to justify approval. Certificates may contain general education courses emphasizing the skills that are critical to entry-level workforce success for persons prepared at the certificate level and associated with the diploma or associate degree program.

Total Credit Hours 12 – 30

## Graduation Requirements

1. Students must achieve a grade point average of at least 2.0 in the courses required for the certificate and
2. Complete a minimum of 25% of certificate requirements at the institution awarding the certificate.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

## Continuing Education Certificate

Students shall be awarded a continuing education certificate when they have successfully completed a continuing education course or set of courses.

## Specialized Training

### Adult Agriculture

Short-term adult classes in agriculture are offered at selected sites. These classes are designed to help young and adult farmers, as well as individuals employed in agribusiness, keep up with the constantly changing technology in the field of agriculture. The program provides on-the-farm and on-the-job supervision year-round with organized instructional classes conducted in the late fall and winter.

Apprenticeship program registration is the responsibility of the Kentucky State Apprenticeship Council in cooperation with the United States Department of Labor, Bureau of Apprenticeship Training. Application must be made through an employer, a labor union or a joint apprenticeship committee. Verify with the KCTCS college that it provides the minimum 144 hours per year of supplemental related instruction required of the apprenticeship program. Additional information may be obtained by calling the Kentucky Apprenticeship Council or the United States Department of Labor, Bureau of Apprenticeship Training.

### Continuing Education Courses

Continuing education courses can be either credit or non-credit and are designed to meet the needs of the labor market and persons preparing to enter the workforce. They can also supplement knowledge and skills for initial employment or job advancement. They are developed to meet the lifelong learning needs of the general public by providing short-term training, retraining, or upgrading of skills for employment or job advancement.

### Customized Industry Training

At the request of business and industry, Community and Economic Development Coordinators (CED) assist in the development and implementation of customized training for prospective and current employees. A specialized training agreement is developed that specifies the duties and responsibilities of the college and the company and may include the awarding of college credit. Contact the CED Coordinator at the local college.

### Fire/Rescue Training

The Fire Science Technology Program will prepare you for the challenges facing today's emergency responders. In the program you will learn the skills of fire suppression and prevention, technical rescue, hazardous materials, emergency medical care, and leadership. This program is beneficial whether you are seeking a career in emergency services (Fire, Rescue, EMS or Emergency Management) or if you are already involved in providing fire, rescue or EMS services in your community.

Students may enter the program with or without experience in emergency services. The degree, certificate, and diploma programs that are offered can help you in obtaining employment in various emergency service fields, or if you are already a firefighter, help you get that promotion you have been waiting for. Classes are offered through State Fire/Rescue Training and may be offered in various formats such as: Web courses, hybrid courses, and traditional classroom offerings. For more information regarding this program, contact your local State Fire/Rescue Training Area Office.

### Fire Rescue Training for Business, Industry and Municipal Government

State Fire Rescue Training provides a full range of Emergency Services Training for Business, Industry and Municipal Government entities. Contact the Fire Rescue office serving your area for more information about the training available to your facility.

### Emergency Medical Technician Certificate

Students in the Emergency Medical Technician program are instructed in the proper care of sick and injured patients. Students are trained to treat victims suffering from traumatic and medical emergencies such as broken bones, puncture wounds, cardiac, and respiratory emergencies, vehicle accidents and more. This course meets the standards set forth by the US Department of Transportation National Standard Curriculum for EMT-Basic and the Kentucky Board of Emergency Medical Services. Students that successfully complete the course and its requirements will be awarded a certificate for Emergency Medical Technician, and will be prepared to challenge the certification examination process set forth by the Kentucky Board of Emergency Medical Services.

### State Fire Rescue Training Coordinators and Contact Information

#### Ashland Community & Technical College

Wes Gilliam, Coordinator  
99 Lake Park Drive  
Morehead, KY 40351  
(800#) 888-301-2946  
wes.gilliam@kctcs.edu

#### Big Sandy Community & Technical College

Greg Gray, Coordinator  
116 Main Street  
Paintsville, KY 41240  
(800#) 888-302-8935  
greg.gray@kctcs.edu

#### Bluegrass Community & Technical College

Brian Steele, Coordinator  
110 Cleveland Drive  
Paris, KY 40361  
(859) 256-3596  
brian.steele@kctcs.edu (briansteele@kctcs.edu)

#### Elizabethtown Community & Technical College

John Gentry, Coordinator  
630 College Street Road  
Elizabethtown, KY 42701  
(800#) 888-234-7201  
john.gentry@kctcs.edu

#### Gateway Community & Technical College

Bill Birkle, Coordinator

3025 Conrad Lane  
Burlington, KY 41005  
(859) 442-4134  
bill.birkle@kctcs.edu

#### **Hazard Community & Technical College**

Vacant  
Contact: Mark Hammond  
99 Lake Park Drive  
Morehead, KY 40351  
(800#) 888-301-2946  
mark.hammond@kctcs.edu

#### **Jefferson Community & Technical College**

Rick Larkins, Coordinator  
11605 Fairmont Rd  
Louisville, KY 40291  
(800#) 888-306-8064  
rick.larkins@kctcs.edu

#### **Madisonville Community College**

Jimmy VanCleve, Coordinator

P. O. Box 700

1300 HWY 136E

Calhoun, KY 42327

(800#) 888-306-8015

jimmy.vancleve@kctcs.edu

#### **Maysville Community & Technical College**

Wes Gilliam, Coordinator  
99 Lake Park Drive  
Morehead, KY 40351  
(800#) 888-301-2946  
wes.gilliam@kctcs.edu

#### **Owensboro Community & Technical College**

Jimmy VanCleve, Coordinator

P. O. Box 700

1300 HWY 136E

Calhoun, KY 42327

(800#) 888-306-8015

jimmy.vancleve@kctcs.edu

#### **Somerset Community College/Laurel Campus**

Chantz McPeck, Coordinator  
189 Triplett Drive  
London, KY 40741  
(800#) 888-234-0100  
chantz.mcpeek@kctcs.edu

#### **Somerset Community College**

Josh Whitis, Coordinator  
180 Oak Leaf Lane, Bldg. 4  
Somerset, KY 42503  
(606) 676-2711

josh.whitis@kctcs.edu

#### **Southcentral Kentucky Community and Technical College**

John Weatherbee, Coordinator  
825 Morgantown Road  
Bowling Green, KY 42101  
(800#) 888-234-5760  
john.weatherbee@kctcs.edu

#### **West Kentucky Community & Technical College**

Pat Crane, Coordinator  
2001 Training Center Drive  
Princeton, KY 42445  
(800#) 888-306-7986  
pat.crane@kctcs.edu (pat.crane@ktcts.edu)

#### **Other Training Options**

In addition to full-time programs, KCTCS colleges provide short-term training courses to meet specific labor force needs and demands. Contact the local college for a list of short-term training programs and schedules.

## **General Education Requirements**

Competencies will be met at the level appropriate to the credential.

A general education core curriculum will enable KCTCS colleges to graduate men and women who are intellectually flexible, articulate, reflective, creative, and prepared for continuous learning. For all students, this implies some understanding of the value of higher education and the world of work and career fields related to their own abilities, interests, and needs. The general education core competencies will enable students to develop their own values, pursue goals, and contribute to the political, moral, social, and cultural enrichment of society.

## **General Education Competencies**

Students should prepare for twenty-first century challenges by gaining:

- A. Knowledge of human cultures and the physical and natural worlds through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts.
- B. Intellectual and practical skills, including
  - inquiry and analysis
  - critical and creative thinking
  - written and oral communication
  - quantitative literacy
  - information literacy
  - teamwork and problem solving
- C. Personal and social responsibility, including
  - civic knowledge and engagement (local and global)
  - intercultural knowledge and competence
  - ethical reasoning and action
  - foundations and skills for lifelong learning
- D. Integrative and applied learning, including synthesis and advanced accomplishment across general and specialized skills.

## **Written Communication**

Course	Title	Credits
<b>Diploma</b>		
TEC 200	Technical Communications	3

OST 108	Editing Skills for Office Professionals	3
Any Writing course approved for the AAS, AA, or AS		

**AAS, AA, AS, AFA**

ENG 101	Writing I	3
ENG 102	Writing II	3
ENG 105	Writing: An Accelerated Course	3

## Oral Communications

Course	Title	Credits
<b>Diploma, AAS, AA, AS, AFA</b>		
COM 181	Basic Public Speaking	3
COM 205	Business and Professional Communication	3
COM 252	Introduction to Interpersonal Communication	3
COM 281	Communication in Small Group	3
COM 287	Persuasive Speaking	3

## Quantitative Reasoning

Course	Title	Credits
<b>Diploma</b>		
OST 213	Business Calculations for The Office Professional	3
Any mathematics course approved for the AAS, AA, AS, or AFA		
<b>AAS</b>		
MAT 105	Business Mathematics	3
MAT 110	Applied Mathematics	3
MAT 116	Technical Mathematics	3
MAT 126	Technical Algebra and Trigonometry	3
Any mathematics course listed below		
<b>AA, AS &amp; AFA</b>		
MAT 141	Liberal Arts Mathematics	3
MAT 146	Contemporary College Mathematics	3
MAT 150	College Algebra	3
MAT 151	Introduction to Applied Statistics	3
MAT 154	Trigonometry	2
MAT 155	Trigonometry	3
MAT 159	Analytic Geometry and Trigonometry	4
MAT 160	Precalculus	5
MAT 161	Statistics and Algebra	5
MAT 165	Finite Mathematics and its Applications	3
MAT 170	Brief Calculus with Applications	3
MAT 171	Precalculus	5
MAT 174	Calculus I	4
MAT 175	Calculus I	5
MAT 184	Calculus II	4
MAT 185	Calculus II	5
MAT 206	Mathematics For Elementary and Middle School Teachers II	3
MAT 261	Introduction to Number Theory	3
MAT 275	Calculus III	4
MAT 285	Differential Equations	3
PHI 250	Symbolic Logic	3
STA 151	Introduction to Applied Statistics	3
STA 210	Statistics: A Force in Human Judgement	3

STA 220	Statistics	3
STA 251	Applied Statistics	3

## Natural Sciences

Course	Title	Credits
<b>Diploma</b>		
PHX 150	Introductory Physics	3
Any Science course approved for the AAS, AA, AS, or AFA		
<b>AAS, AA, AFA, AS</b>		
ANA 209	Principles of Human Anatomy	3
ANT 230	Introduction to Biological Anthropology	3
ANT 231	Biological Anthropology Laboratory *	1
AST 101	Frontiers of Astronomy	3
AST/BIO 155	Astrobiology	3
AST 191	The Solar System	3
AST 192	Stars, Galaxies and the Universe	3
AST 195	Introductory Astronomy Laboratory *	1
BIO 112	Introduction to Biology	3
BIO 113	Introduction to Biology Lab *	1
BIO 114	Biology I	3
BIO 115	Biology Laboratory I *	1
BIO 116	Biology II	3
BIO 117	Biology Laboratory II *	1
BIO 118	Microbes and Society	3
BIO 120	Human Ecology	3
BIO 121	Human Ecology Laboratory *	1
BIO 122	Introduction to Conservation Biology	3
BIO 124	Principles of Ecology	3
BIO 130	Aspects of Human Biology	3
BIO 135	Basic Anatomy and Physiology with Laboratory *	4
BIO 137	Human Anatomy and Physiology I with Laboratory *	4
BIO 139	Human Anatomy and Physiology II with Laboratory *	4
BIO 140	Botany	3
BIO 141	Botany with Laboratory *	4
BIO 142	Zoology	3
BIO 143	Zoology with Laboratory *	4
BIO 144	Insect Biology	3
BIO 145	Insect Biology Laboratory *	1
BIO 150	Principles of Biology I	3
BIO 151	Principles of Biology Laboratory I *	2
BIO 152	Principles of Biology II	3
BIO 153	Principles of Biology Laboratory II *	2
BIO/AST 155	Astrobiology	3
BIO 209	Introductory Microbiology Laboratory *	2
BIO 220	The Genetic Perspective	3
BIO 225	Medical Microbiology with Laboratory *	4
BIO 226	Principles of Microbiology	3
BIO 227	Principles of Microbiology with Laboratory *	5
CHE 120	Chemistry in Society	3
CHE 125	Chemistry in Society Laboratory *	1



CHE 130	Introductory General and Biological Chemistry	3
CHE 135	Introductory General and Biological Chemistry Laboratory *	1
CHE 140	Introductory General Chemistry	3
CHE 145	Introductory General Chemistry Laboratory *	1
CHE 150	Introduction to Organic and Biological Chemistry	3
CHE 155	Introduction to Organic and Biological Chemistry Laboratory <sup>1</sup>	1
CHE 170	General College Chemistry I	4
CHE 175	General College Chemistry Laboratory I *	1
CHE 180	General College Chemistry II	4
CHE 185	General College Chemistry Laboratory II *	1
CHE 270	Organic Chemistry I	3
CHE 275	Organic Chemistry Laboratory I *	2
CHE 280	Organic Chemistry II	3
CHE 285	Organic Chemistry Laboratory II *	2
EST 150	Introductory Ecology *	4
EST 160	Hydrological Geology	3
EST 161	Hydrologic Geology Lab *	1
GEO 130	Earth's Physical Environment	3
GEO 131	Earth's Physical Environment Laboratory *	1
GEO 251	Weather and Climate	3
GEO 280	Environmental Science *	4
GLY 101	Physical Geology	3
GLY 102	Historical Geology	3
GLY 110	Environmental Geology	3
GLY 111	Physical Geology Laboratory *	1
GLY 112	Historical Geology Laboratory *	1
GLY 114	Environmental Geology Laboratory *	1
GLY 125	Geology of the National Parks and Monuments	3
GLY 130	Dinosaurs and Disasters: A Brief History of the Vertebrates	3
GLY 131	Dinosaur Laboratory *	1
GLY 140	Introduction to Oceanography	3
GLY 220	Principles of Physical Geology *	4
PHY 151	Introductory Physics I	3
PHY 152	Introductory Physics II	3
PHY 160	Physics and Astronomy for Elementary Teachers *	3
PHY 161	Introductory Physics I Laboratory *	1
PHY 162	Introductory Physics II Laboratory *	1
PHY 171	Applied Physics *	4
PHY 172	Physics for Health Sciences *	2
PHY 201	College Physics I	4
PHY 202	College Physics I Laboratory *	1
PHY 203	College Physics II	4
PHY 204	College Physics II Laboratory *	1
PHY 231	General University Physics I	4
PHY 232	General University Physics II	4
PHY 241	General University Physics I Laboratory *	1
PHY 242	General University Physics II Laboratory *	1
SCI 110	Science and Society	3
SCI 295	Scientific Investigations	3

\* Course satisfies the General Education requirement for a laboratory experience.

## Social and Behavioral Sciences

Course	Title	Credits
<b>Diploma</b>		
EFM 100	Personal Financial Management	3
WPP 200	Workplace Principles	3
Any Social Interaction course approved for the AAS, AA, AS, or AFA		
<b>AAS, AA, AS, AFA</b>		
AGR 101	The Economics of Food and Agriculture	3
ANT 101	Introduction to Anthropology	3
ANT/REL 130	Introduction to Comparative Religion <sup>1</sup>	3
ANT 160	Cultural Diversity in the Modern World	3
ANT 220	Introduction to Cultural Anthropology	3
ANT 221	Native People of North America	3
ANT 223	Culture Change and Globalization	3
ANT 235	Food and Culture	3
ANT 240	Introduction to Archaeology	3
ANT 241	Origins of Old World Civilization	3
ANT 242	Origins of New World Civilization	3
COM 101	Introduction to Communications	3
COM 249	Mass Media Communication	3
COM 254	Introduction to Intercultural Communication	3
ECO 101	Contemporary Economic Issues	3
ECO 150	Introduction to Global Economics	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
FAM 252	Introduction to Family Science	3
FAM 253	Human Sexuality: Development, Behavior, and Attitudes	3
FLK 280	Cultural Diversity in the United States	3
GEN 140	Development of Leadership	3
GEN 225	Lifelong Learning Applications	3
GEO 152	Regional Geography of the World	3
GEO 160	Lands and Peoples of the Non-Western World	3
GEO 172	Human Geography	3
GEO 210	Pollution, Hazards, and Environmental Management	3
GEO 222	Cities of the World	3
GEO 240	Geography and Gender	3
HUM 135	Introduction to Native American Literature <sup>2</sup>	3
HUM 202	Survey of Appalachian Studies I <sup>2</sup>	3
HUM 203	Survey of Appalachian Studies II <sup>2</sup>	3
HUM 204	Appalachian Seminar <sup>2</sup>	3
HUM 221	Contemporary Perspectives on Peace and War	3
POL 101	American Government	3
POL 210	Introduction to European Politics: East and West	3
POL 212	Culture and Politics in Developing Nations	3
POL 235	World Politics	3
POL 255	State Government	3

PSY 110	General Psychology	3
PSY 180	Human Relations	3
PSY 185	Human Potential	3
PSY 223	Developmental Psychology	3
PSY 230	Psychosocial Aspects of Death and Dying	3
PSY 297	Psychology of Aging	3
PSY 298	Essentials of Abnormal Psychology	3
RAE 120	Introduction to Chinese Culture	3
REL 101	Introduction to Religious Studies <sup>2</sup>	3
REL 130	Introduction to Comparative Religion <sup>1</sup>	3
SOC 101	Introduction to Sociology	3
SOC 151	Social Interaction	3
SOC 152	Modern Social Problems	3
SOC 220	The Community	3
SOC 230	Deviant Behavior	3
SOC 235	Inequality in Society	3
SOC 249	Media, Society, and Culture	3
SOC 250	Sociology of Popular Culture	3
SOC 260	Population, Resources and Change	3
SPA 115	Hispanic Culture: (Country or Region)	3
SUS 101	Introduction to Sustainability	3
SUS 102	Sustainable Built Environment	3
SUS 201	Sustainable Societies	3
SUS 202	Sustainable Urban Systems	3
SWK 124	Introduction to Social Services	3
SWK 275	The Family	3
WGS 200	Introduction to Women's and Gender Studies in the Social Sciences	3

<sup>1</sup> A student may not receive credit for both ANT 130 Introduction to Comparative Religion (3 credit hours) and REL 130 Introduction to Comparative Religion (3 credit hours).

<sup>2</sup> May be used to fulfill either Social and Behavioral Sciences or Arts & Humanities competency, but may not be used to fulfill both general education categories.

## Arts and Humanities

### Heritage

Course	Title	Credits
<b>Diploma, AAS, AA, AS, AFA</b>		
FLK 276	Introduction to Folk Studies	3
HIS 101	World Civilization I	3
HIS 102	World Civilization II	3
HIS 104	A History of Europe Through the Mid-Seventeenth Century	3
HIS 105	A History of Europe from the Mid-Seventeenth Century to the Present	3
HIS 106	Western Culture: Science and Technology I	3
HIS 107	Western Culture: Science and Technology II	3
HIS 108	History of the United States Through 1865	3
HIS 109	History of the United States Since 1865	3
HIS 120	The World at War, 1939-45	3
HIS 202	History of British People to the Restoration	3

HIS 203	History of the British People Since the Restoration	3
HIS 206	History of Colonial Latin America	3
HIS 207	History Modern Latin America, 1810 to Present	3
HIS 215	Historical Perspectives on Prisons and Police Work	3
HIS 220	Native American History: Pre-Contact to 1865	3
HIS 221	Native America History: 1865 to Present	3
HIS 240	History of Kentucky	3
HIS 247	History of Islam and Middle East Peoples, 500-1250 A.D.	3
HIS 248	History of Islam and Middle East Peoples, 1250 to the Present	3
HIS 254	History of Sub-Saharan Africa	3
HIS 260	African American History to 1865	3
HIS 261	African-American History 1865 - Present	3
HIS 265	History of Women in America	3
HIS 271	Medieval Europe	3
HIS 295	East Asia to 1800	3
HIS 296	History of Asia II	3

### Humanities

Course	Title	Credits
<b>Diploma, AAS, AA, AS, AFA</b>		
ANT/REL 130	Introduction to Comparative Religion <sup>1</sup>	3
ART 100	Introduction to Art	3
ART 104	Introduction to African Art	3
ART 105	Ancient Through Medieval Art History	3
ART 106	Renaissance Through Modern Art History	3
ART 108	Introduction to World Art	3
ART 109	Women in Art & Art History	3
ART 201	Ancient Art History	3
ART 202	Medieval Art History	3
ART 203	Renaissance Art History	3
ART 204	Modern Art History	3
ART 205	African American Art	3
ENG 135	Greek and Roman Mythology in Translation	3
ENG 161	Introduction to Literature	3
ENG 190	Introduction to Dystopian Literature and Film	3
ENG 221	Survey of English Literature I	3
ENG 222	Survey of English Literature II	3
ENG 230	Literature and Theme (subtitle required)	3
ENG 231	Literature and Genre (Subtitle required)	3
ENG 232	Literature and Place (Subtitle required)	3
ENG 233	Literature and Identities (Subtitle required)	3
ENG 234	Introduction to Women's Literature	3
ENG 251	Survey of American Literature I	3
ENG 252	Survey of American Literature II	3
ENG 261	Survey of Western Literature from the Greeks Through the Renaissance	3
ENG 262	Survey of Western Literature from 1660 to the Present	3
ENG 264	Major Black Writers	3
ENG 270	The Old Testament as Literature	3
ENG 271	The New Testament as Literature	3

ENG/HUM 281	Introduction to Film	3
ENG/HUM 282	International Film Studies	3
FLK 276	Introduction to Folk Studies	3
GEN 125	Applied Meta-Thinking	3
HNR 101	Intro to Contemporary Thought	3
HON 101	The Ancient World	3
HON 102	The Medieval and Renaissance World	3
HON 201	The Early and Modern World	3
HON 202	The Contemporary World	3
HRS 101	An Integrated Survey of Western Civilization I	3
HRS 102	An Integrated Survey of Western Civilization II	3
HRS 201	An Integrated Survey of Western Civilization III	3
HRS 202	An Integrated Survey of Western Civilization IV	3
HUM 120	Introduction to the Humanities	3
HUM 121	Peace Studies	3
HUM 135	Introduction to Native American Literature <sup>2</sup>	3
HUM 140	Introduction to Latino Literature	3
HUM 150	Introduction to African Literature	3
HUM 160	Introduction to Holocaust Literature and Film	3
HUM 202	Survey of Appalachian Studies I <sup>2</sup>	3
HUM 203	Survey of Appalachian Studies II <sup>2</sup>	3
HUM 204	Appalachian Seminar <sup>2</sup>	3
HUM 220	Historical Perspectives on Peace and War	3
HUM 230	Contemporary Japanese Literature and Culture in Translation	3
HUM 250	Appalachian Literature Survey	3
HUM 251	Contemporary Appalachian Literature	3
HUM/ENG 281	Introduction to Film	3
HUM/ENG 282	International Film Studies	3
MU 101	Folk and Traditional Music of the Western Continents	3
MUS 100	Introduction to Music	3
MUS 104	Introduction to Jazz History	3
MUS 206	American Music History	3
MUS 207	African American Music History	3
MUS 208	World Music	3
MUS 222	History and Sociology of Rock Music	3
PHI 100	Introduction to Philosophy: Knowledge and Reality	3
PHI 110	Medical Ethics	3
PHI 120	Introductory Logic	3
PHI 130	Ethics	3
PHI 140	The Ethics of War and Peace	3
PHI 150	Business Ethics	3
PHI 160	Philosophy Through Pop Culture	3
PHI 170	Philosophy of Religion	3
PHI 180	Animal and Environmental Ethics	3
PHI 200	Professional Responsibility	3
PHI 260	History of Philosophy I: From Greek Beginnings to the Middle Ages	3
PHI 270	History of Philosophy II: From the Renaissance to the Present Era	3
REL 101	Introduction to Religious Studies <sup>2</sup>	3
REL 120	Introduction to the Old Testament	3

REL 121	Introduction to the New Testament	3
REL/ANT 130	Introduction to Comparative Religion <sup>1</sup>	3
REL 150	Comparative Ethics of Major World Religions	3
REL 160	Religious Expressions of Forgiveness and Justice	3
REL 170	Philosophy of Religion	3
THA 101	Introduction to Theatre: Principles and Practice	3
THA 200	Introduction to Dramatic Literature	3
THA 283	American Theatre	3
WGS 201	Introduction to Women's and Gender Studies in the Arts and Humanities	3

<sup>1</sup> A student may not receive credit for both ANT 130 Introduction to Comparative Religion (3 credit hours) and REL 130 Introduction to Comparative Religion (3 credit hours).

<sup>2</sup> May be used to fulfill either Social and Behavioral Sciences or Arts & Humanities requirement, but may not be used to fulfill both general education categories.

## Other Degree and/or Credential Requirements

### College Success Courses

A College Success course promotes college completion by providing an in-depth experience that helps students learn a model for decision-making of life-defining choices. Students learn to use available resources to develop knowledge, skills, and attitudes to promote success. Students will evaluate a wide range of educational, career and life path options, and establish reasoned and researched goals for their future. For completion of the Associate in Arts and Associate in Science degrees, students must complete a college success course or approved equivalent.

Course	Title	Credits
FYE 100	Strategies for College Success	1
FYE 105	Achieving Academic Success	3
FYE 110	First Year Experience and Applications	3

### Cultural Competence (previously Cultural Studies)

Cultural Competence courses prepare students to live in increasingly diverse domestic and international environments. These courses encourage students to use critical thinking skills to develop an understanding of diversity, equity, and inclusion. The goal of these courses is for students to be able to interact with those from other cultures and to see the world from a broader perspective.

During the 2022-23 academic year, courses previously designated as Cultural Studies will be updated with the Cultural Competence status. For completion of the AA/AS degree, students must complete at least one cultural competence course (listed below by General Education category).

### Social and Behavioral Sciences

Course	Title	Credits
ANT/REL 130	Introduction to Comparative Religion <sup>1</sup>	3
ANT 160	Cultural Diversity in the Modern World	3
ANT 220	Introduction to Cultural Anthropology	3
ANT 221	Native People of North America	3
ANT 235	Food and Culture	3
ANT 240	Introduction to Archaeology	3
ANT 241	Origins of Old World Civilization	3

ANT 242	Origins of New World Civilization	3
COM 254	Introduction to Intercultural Communication	3
ECO 150	Introduction to Global Economics	3
GEO 152	Regional Geography of the World	3
GEO 160	Lands and Peoples of the Non-Western World	3
GEO 172	Human Geography	3
HUM 135	Introduction to Native American Literature <sup>1</sup>	3
HUM 202	Survey of Appalachian Studies I <sup>1</sup>	3
HUM 203	Survey of Appalachian Studies II <sup>1</sup>	3
HUM 204	Appalachian Seminar <sup>1</sup>	3
POL 212	Culture and Politics in Developing Nations	3
POL 235	World Politics	3
PSY 230	Psychosocial Aspects of Death and Dying	3
RAE 120	Introduction to Chinese Culture	3
REL 101	Introduction to Religious Studies	3
SOC 235	Inequality in Society	3
SPA 115	Hispanic Culture: (Country or Region)	3
WGS 200	Introduction to Women's and Gender Studies in the Social Sciences	3

### Heritage

Course	Title	Credits
HIS 101	World Civilization I	3
HIS 102	World Civilization II	3
HIS 206	History of Colonial Latin America	3
HIS 207	History Modern Latin America, 1810 to Present	3
HIS 220	Native American History: Pre-Contact to 1865	3
HIS 221	Native America History: 1865 to Present	3
HIS 247	History of Islam and Middle East Peoples, 500-1250 A.D.	3
HIS 248	History of Islam and Middle East Peoples, 1250 to the Present	3
HIS 254	History of Sub-Saharan Africa	3
HIS 260	African American History to 1865	3
HIS 261	African-American History 1865 - Present	3
HIS 265	History of Women in America	3
HIS 295	East Asia to 1800	3
HIS 296	History of Asia II	3

### Humanities

Course	Title	Credits
ART 104	Introduction to African Art	3
ART 108	Introduction to World Art	3
ART 205	African American Art	3
ART 109	Women in Art & Art History	3
ENG 135	Greek and Roman Mythology in Translation	3
ENG 233	Literature and Identities (Subtitle required)	3
ENG 234	Introduction to Women's Literature	3
ENG 264	Major Black Writers	3
ENG/HUM 282	International Film Studies	3
HUM 121	Peace Studies	3
HUM 135	Introduction to Native American Literature <sup>1</sup>	3
HUM 140	Introduction to Latino Literature	3
HUM 150	Introduction to African Literature	3

HUM 160	Introduction to Holocaust Literature and Film	3
HUM 202	Survey of Appalachian Studies I <sup>1</sup>	3
HUM 203	Survey of Appalachian Studies II <sup>1</sup>	3
HUM 204	Appalachian Seminar <sup>1</sup>	3
HUM 230	Contemporary Japanese Literature and Culture in Translation	3
HUM 250	Appalachian Literature Survey	3
HUM 251	Contemporary Appalachian Literature	3
MU 101	Folk and Traditional Music of the Western Continents	3
MUS 104	Introduction to Jazz History	3
MUS 207	African American Music History	3
MUS 208	World Music	3
REL 101	Introduction to Religious Studies	3
REL/ANT 130	Introduction to Comparative Religion <sup>1</sup>	3
REL 150	Comparative Ethics of Major World Religions	3
REL 160	Religious Expressions of Forgiveness and Justice	3
WGS 201	Introduction to Women's and Gender Studies in the Arts and Humanities	3

<sup>1</sup> Listed under more than one category and/or with a different prefix; may not be counted in more than one general education category.

### Foreign Languages

Course	Title	Credits
FRE 101	Elementary French I	4
FRE 102	Elementary French II	4
FRE 201	Intermediate French I	3
FRE 202	Intermediate French II	3
GER 101	Elementary German I	4
GER 102	Elementary German II	4
GER 201	Intermediate German I	3
GER 202	Intermediate German II	3
JPN 101	Beginning Japanese I	4
JPN 102	Beginning Japanese II	4
RAE 150	Elementary Chinese I	4
RAE 151	Elementary Chinese II	4
SED 101	Sign Language I	3
SED 102	Sign Language II	3
SED 203	Sign Language III	3
SED 204	Sign Language IV	3
SPA 101	Elementary Spanish I (spoken approach)	4
SPA 102	Elementary Spanish II (spoken approach)	4
SPA 201	Intermediate Spanish I	3
SPA 202	Intermediate Spanish II	3

### Digital Literacy

KCTCS defines digital literacy as the ability to ethically and responsibly use technology to skillfully locate, evaluate, use, create, and communicate information to improve the quality of life and employability of students.

Before completing an AA, AS, AFA, AAS or any diploma with KCTCS, students must demonstrate digital literacy by one of the following means:

1. Passing the IC3 Global Standard Fast Track exam (using the most current Global Standard available), or
2. Achieving the IC3 Certification, or
3. Articulating credit from another institution which has demonstrated compliance with the above course criteria as identified by the registrar of the receiving college in cooperation with the digital literacy faculty of the receiving college, or
4. Receiving credit for an approved KCTCS digital literacy course, or
5. Completing a KCTCS program that has been given Digital Literacy status for the program, or
6. Providing documentation of successful completion of other certification exams as approved by KCTCS.

Documentation of digital literacy will be recorded as course credit, program completion, transfer course or external exam credit.

### Approved KCTCS Digital Literacy Courses

Course	Title	Credits
CAD 100	Introduction to Computer Aided Design	3
CIT 105	Introduction to Computers	3
DLC 101	Digital Literacy	3
DMI 228	Seminars in Radiography	3
DMS 119	Ultrasonic Physics and Instrumentation	6
DPT 100	Introduction to 3D Printing Technology	3
EDU 204	Technology In the Classroom	3
IMD 100	Digital Information & Communication Technologies	3
OST 105	Introduction to Information Systems	3
VCC 125	Computer Graphics I	3
VCC 150	Mac Basics	3

### Approved KCTCS Programs with Digital Literacy Status

In addition to the courses listed above, the following KCTCS AAS programs are approved for Digital Literacy Status.

Students who complete these programs will not need to take an additional course to fulfill the Digital Literacy requirement.

- Cybersecurity AAS
- Nursing Associate Degree Program – Standard Pathway and Modular Pathway
- Nursing – Academic/Career Mobility AAS Program
- Nursing – Integrated Nursing AAS and Integrated LPN Diploma Program
- Nursing – Practical Nursing Diploma, all Pathways
- Orthotics and Prosthetics AAS

### Course Transitions

A significant number of courses have changed prefixes and/or course numbers. This does not change the ability of the courses to fulfill general education course requirements as long as courses were eligible at the time of enrollment. Course changes for General Education courses are available in Appendices -E (through 2013-2014 academic year).



# KCTCS ONLINE

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The sixteen colleges in the Kentucky Community and Technical College System (KCTCS) deliver quality online courses and programs, and offer multiple start dates throughout each semester.

Students can choose from more than 100 fully online programs including the:

- Associate in Arts (AA),
- Associate in Science (AS), and
- Associate in Applied Science (AAS),
- Diplomas, and
- Short-term certificates.

Students can also supplement their face-to-face coursework with online courses in a variety of subject areas.

Additional information about KCTCS Online courses and programs may be viewed by visiting the KCTCS Online web page (<https://kctconline.com/>).

To get started taking KCTCS Online courses, contact your advisor.

# PROGRAMS OF STUDY

This section of the KCTCS catalog provides an overview of all the degree, diploma, and certificate programs offered by the KCTCS Colleges, in alphabetical order by name of the overarching program. Each KCTCS College is independently accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) and decisions on program and course offerings occur at the College. Under the title of each credential is a list of KCTCS Colleges that offer the credential.

Questions regarding the current college program inventory should be directed to the Student Records Office at each KCTCS College.

## Employment and Earnings Information

Information related to KCTCS graduate employment and earnings can be found in Postsecondary Feedback Reports at (<https://kcews.ky.gov/Reports/Reports>).

## Admission to Selective Programs

Academic requirements are specified for each program and are based on the level of difficulty and the technical nature of the curriculum. Admission to some programs is limited by college resources, facilities, accreditation requirements, etc. Contact the Student Services office or program coordinator at the college for more information.

## Associate in Arts

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 2401015000

**May be available completely online. Please check with your academic advisor.**

An Associate in Arts (AA) degree provides a foundation in liberal arts and is designed for transfer into a Baccalaureate of Arts degree at a four-year institution. It consists of a general education core requirement of 33 credit hours and additional degree requirements of 6 credit hours and 21 credit hours of electives for a total of 60 credit hours. Students should fulfill elective hours with associate degree requirements and coursework appropriate for their transfer majors.

## General Education Core Requirements

Note: Courses chosen to satisfy General Education requirements must be selected from the approved General Education list which is available in the KCTCS catalog under Academic Services - General Education Requirements (p. 87). A course used to fulfill one category cannot be used to fulfill another category.

Course	Title	Credits
Written Communications <sup>1</sup>		6
Oral Communications		3
Arts and Humanities: Heritage		3
Arts and Humanities: Humanities		3
Quantitative Reasoning		3
Natural Sciences <sup>2</sup>		3
Social/Behavioral Sciences <sup>3</sup>		9
Quantitative Reasoning or Natural Sciences		3
General Education Core Subtotal		33

<sup>1</sup> Note: Students who complete ENG 105 Writing: An Accelerated Course (3 credit hours) as a Written Communication requirement must also take an additional 3 credit hours of General Education from any of the General Education categories found on pages 67-71.

<sup>2</sup> Natural Science course must include a laboratory experience.

<sup>3</sup> Two disciplines must be represented and different from those in the Arts and Humanities category.

## Associate in Arts Additional Requirements

Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring. These courses must be different courses than that in the General Education Core section.

**Complete two courses from the areas listed below:**

Course	Title	Credits
Arts and Humanities <b>and/or</b> Social/Behavioral Sciences <b>and/or</b> Oral Communications <b>and/or</b> Foreign Languages		6
Additional Requirements Subtotal		6

## Total Credit Hours for the Associate in Arts with Electives

Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring.

Course	Title	Credits
General Education Core		33
Additional Requirements		6
Associate in Arts Electives (must include completion of Digital Literacy and College Success requirements through coursework or competency)		21
Digital Literacy Requirement <sup>1</sup>		
College Success Course or Equivalent		
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> Must be demonstrated either by competency exam or by completing an approved digital literacy course listed in the catalog under Academic Services - General Education Requirements.

A course carrying the Cultural Competence status must also be completed as part of the AA requirements. Approved Cultural Competence courses are listed in the catalog under Academic Services - General Education Requirements (p. 87).

## Associate in Science

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway

Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 2401016000

**May be available completely online. Please check with your academic advisor.**

An Associate in Science (AS) degree is designed to transfer into a Baccalaureate of Science degree at a four-year institution. It consists of a general education core requirement of 33 credit hours and additional degree requirements of 6 credit hours and 21 credit hours of electives for 60 credit hours. Students should fulfill elective hours with associate degree requirements and coursework appropriate for their transfer majors.

## General Education Core Requirements

Note: Courses chosen to satisfy General Education requirements must be selected from the approved General Education list which is available in the KCTCS catalog under Academic Services - General Education Requirements (p. 87). A course used to fulfill one category cannot be used to fulfill another category.

Course	Title	Credits
Written Communications <sup>1</sup>		6
Oral Communications		3
Arts and Humanities: Heritage		3
Arts and Humanities: Humanities		3
Quantitative Reasoning		6
Natural Sciences <sup>2</sup>		6
Social/Behavioral Sciences <sup>3</sup>		6
General Education Core Subtotal		33

<sup>1</sup> Note: Students who complete ENG 105 Writing: An Accelerated Course (3 credit hours) as a Written Communication requirement must also take an additional 3 credit hours of General Education from any of the General Education categories found on pages 67-71.

<sup>2</sup> One science course must include a laboratory experience.

<sup>3</sup> Two disciplines must be represented and different from those in the Arts and Humanities category.

## Associate in Science Additional Requirements

Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring. These courses must be different courses than that in the General Education Core section.

**Complete two courses from the areas listed below:**

Course	Title	Credits
Quantitative Reasoning <b>and/or</b> Natural Sciences		6
Additional Requirements Subtotal		6

## Total Credit Hours for the Associate in Science with Electives

Students are advised to choose hours to satisfy pre-major requirements at the institution to which they are transferring.

Course	Title	Credits
General Education Core		33
Additional Requirements		6
Associate in Science Electives (must include completion of Digital Literacy and College Success requirements through coursework or competency.)		21
Digital Literacy Requirement <sup>1</sup>		
College Success Course or Equivalent		
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> Must be demonstrated either by competency exam or by completing an approved digital literacy course listed under Academic Services - General Education Requirements.

A course carrying the Cultural Competence status must also be completed as part of the AS requirements. Approved Cultural Competence courses are under Academic Services - General Education Requirements (p. 87).

## Associate in Applied Science (A.A.S.) Curricula

The programs listed below are comprised of Associate in Applied Science degrees (A.A.S.), diplomas, and certificates. The intent of these degrees and credentials is employment upon completion. These programs were not designed to transfer into a four-year degree, although transfer pathways may be available depending on the four-year institution chosen by a transfer student. Some universities offer a two-year program that builds on the AAS degree so the student can earn a Bachelor's degree in two years, while others require additional work to meet Bachelor's program requirements, thereby extending the time to degree completion.

The AAS degree leads to employment within a particular industry and requires a combination of general education/work effectiveness and technical coursework. The Diploma is a concentration of technical course work with only 6 required hours of general education credit. The short-term focus of the diploma is technical skills and knowledge to immediately enter the workplace.

A certificate can range from 3-50 credit hours, but most certificates require between 6 and 30 credit hours. Certificates are focused on very defined technical skills that can lead to employment in specific industries without the need for additional education. Many certificates cover the technical skills necessary to pursue a specific licensure or nationally recognized certification.

In addition, many AAS, diploma, and certificate programs contain tracks.

Tracks are a concentration of a particular technical skill or focus area within the overall program. As an example, under the current KCTCS Computer & Information Technologies (CIT) AAS degree, there are 10 tracks to choose from. Those tracks range from Video Game Design or Cloud Computing Technologies to Network Administration. The choice of a track allows the student to align their area of interest more closely to a particular focus within the program of study. Students should note they must select at least one track for completion with the general education and technical core when multiple tracks are offered. All curriculum track

requirements are outlined in the academic curriculum frameworks for each program.

- Administrative Office Technology - AAS (p. 98)
- Advanced Integrated Technology - AAS (p. 105)
- Agriculture - AAS (p. 108)
- Air Conditioning Technology - AAS (p. 114)
- Applied Process Technologies - AAS (p. 119)
- Apprenticeship Studies - AAS (p. 120)
- Architectural Technology - AAS (p. 121)
- Automotive Technology - AAS (p. 124)
- Aviation Maintenance Technology - AAS (p. 127)
- Biomedical Technology Systems - AAS (p. 129)
- Biotechnology Laboratory Technician - AAS (p. 130)
- Broadband Technology - AAS (p. 133)
- Business Administration - AAS (p. 136)
- Civil Engineering Technology - AAS (p. 148)
- Computer Aided Drafting and Design - AAS (p. 151)
- Computer and Information Technologies - AAS (p. 159)
- Computer Engineering Technology - AAS (p. 170)
- Computerized Manufacturing & Machining - AAS (p. 170)
- Construction Technology - AAS (p. 175)
- Criminal Justice - AAS (p. 181)
- Culinary Arts - AAS (p. 186)
- Cybersecurity - AAS (p. 191)
- Dental Hygiene - AAS (p. 196)
- Dental Hygiene - AAS (p. 195)
- Diagnostic Medical Sonography - AAS (p. 198)
- Diesel Technology - AAS (p. 200)
- Education - AAS (p. 206)
- Electrical Technology - AAS (p. 207)
- Emergency Medical Services - Paramedic - AAS (p. 220)
- Energy Technologies - AAS (p. 222)
- Engineering and Electronics Technology - AAS (p. 224)
- Environmental Science Technology - AAS (p. 235)
- Equine Studies - AAS (p. 237)
- Fermentation Science - AAS (p. 239)
- Fire Science Technology - AAS (p. 241)
- Fixed Wing Flight Training - AAS (p. 243)
- General Occupational/Technical Studies AAS (p. 245)
- Graphic Design and Library Technology - AAS (p. 247)
- Health Information Technology - AAS (p. 250)
- Health Science Technology - AAS (p. 251)
- Healthcare Facilities Leadership - AAS (p. 253)
- Helicopter Flight Training - AAS (p. 255)
- Human Services - AAS (p. 257)
- Industrial Maintenance Technology - AAS (p. 263)
- Integrated Engineering Technology - AAS (p. 271)
- Interdisciplinary Early Childhood Education - AAS (p. 272)
- Logistics and Operations Management - AAS (p. 275)
- Manufacturing Engineering Technology - AAS (p. 276)
- Marine Technology - AAS (p. 278)
- Massage Therapy Technology - AAS (p. 281)

- Medical Assisting - AAS (p. 283)
- Medical Information Technology - AAS (p. 287)
- Medical Laboratory Technician - AAS (p. 292)
- Mining Technology - AAS (p. 294)
- Nursing - AAS (p. 299)
- Nursing - Integrated Nursing - AAS (p. 301)
- Nursing-Academic/Career Mobility Program - AAS (p. 305)
- Occupational Therapy Assistant - AAS (p. 306)
- Orthotics and Prosthetics Technology - AAS (p. 307)
- Paralegal Technology - AAS (p. 308)
- Physical Therapist Assistant - AAS (p. 310)
- Plumbing Technology - AAS (p. 311)
- Professional Studio Artist-Bluegrass & Traditional Music - AAS (p. 314)
- Radiography - AAS (p. 317)
- Respiratory Therapist - AAS (p. 319)
- Supply Chain Management - AAS (p. 321)
- Surgical First Assisting - AAS (p. 322)
- Surgical Technology - AAS (p. 323)
- Surveying and Mapping Technology - AAS (p. 325)
- Unmanned Systems Technology - AAS (p. 328)
- Veterinary Technology - AAS (p. 330)
- Visual Communication: Communication Arts Technology - AAS (p. 331)
- Visual Communication: Design & Technology - AAS (p. 333)
- Visual Communication: Multimedia - AAS (p. 338)
- Welding Technology - AAS (p. 341)

## Administrative Office Technology

The Administrative Office Technology program is an integrated curriculum, which prepares graduates at the certificate, diploma, and associate degree level. The Administrative Office Technology program prepares students to work in an office environment of people, process, and technologies. Job titles may include Administrative Assistant, Office Assistant, Office Manager, and Financial Assistant. These personnel use a variety of office technology and computer-based applications (word processing, electronic mail, desktop publishing, graphics, database, and spreadsheet). They support and help facilitate accurate communication and information exchange to internal and external customers on a timely basis. Technical courses combined with general education courses prepare students for today's workforce and provide a basis for lifelong learning, a necessity for the workforce of the future. Students select an area of specialty from the following tracks: financial assistant, administrative, desktop publishing, or legal. Program graduates are employed in professional office, education, government, businesses, and industries. Graduates may choose to sit for the Certified Professional Secretary Examination or Certified Administrative Professional Examination or Microsoft Office Specialists Certifications.

The Administrative Office Technology department does not accept non-General Education courses older than 5 years from returning or transfer students without consent of the local program coordinator.

Progression in the Administrative Office Technology program is contingent upon achievement of a grade of "C" or better in all OST courses.

## Degrees

- Administrative Office Technology - AAS (p. 98)
  - Administrative Management Track (p. 98)
  - Desktop Publishing Track (p. 99)
  - Financial Assistant Track (p. 99)
  - Legal Administrative Track (p. 99)

## Diplomas

- Administrative Assistant - Diploma (p. 99)
- Desktop Publishing Specialist - Diploma (p. 100)
- Financial Assistant - Diploma (p. 100)
- Legal Office Assistant - Diploma (p. 100)
- Office Assistant - Diploma (p. 101)

## Certificates

- Administrative - Certificate (p. 101)
- Basic Business Presentation - Certificate (p. 101)
- Client Support Specialist - Certificate (p. 102)
- Data Entry Operator - Certificate (p. 102)
- Desktop Publishing - Certificate (p. 102)
- Financial Assistant Clerk - Certificate (p. 102)
- Financial Assistant Trainee - Certificate (p. 102)
- Financial Record Keeper - Certificate (p. 103)
- Integrated Office Skills - Certificate (p. 103)
- Legal Receptionist - Certificate (p. 103)
- Receptionist - Certificate (p. 103)

# Administrative Office Technology - AAS

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5204027039

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Progression in the Administrative Office Technology program is contingent upon achievement of a grade of "C" or better in all OST courses.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following three options:		3
MAT 105	Business Mathematics	
MAT 110	Applied Mathematics	

<b>Higher Level Quantitative Reasoning Course</b>		
Heritage/Humanities		3
<b>Oral Communications Course</b>		3
Natural Sciences Course		3-4
Social/Behavioral Science Course <sup>1</sup>		3
Subtotal		18-19
<b>Technical Core</b>		
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 210	Advanced Word Processing Applications	3
OST 215	Office Procedures	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
OST 275	Office Management	3
Subtotal		24
<b>General Education and Technical Core Subtotal</b>		<b>42-43</b>

*Students must complete one of the tracks listed below to complete the AAS requirements.*

<sup>1</sup> Association of Collegiate Business Schools and Programs (ACBSP) accredited colleges must require Economics.

## Administrative Management Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 520402701

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
<b>General Education and Technical Core Subtotal</b>		<b>42-43</b>
ACT 101	Fundamentals of Accounting I	3
or ACC 201	Financial Accounting	
OST 220	Administrative Office Simulations	3
OST 225	Introduction to Desktop Publishing	3
OST 295	Administrative Office Technology Internship	3
or COE 199	Cooperative Education: (Topic)	
Select two of the following seven options:		6
BAS 120	Personal Finance	
BAS 160	Introduction to Business	
ENG 102	Writing II	
MIT 103	Medical Office Terminology	
OST 108	Editing Skills for Office Professionals	
OST 150	Transcription and Office Technology	
Elective course approved by Program Coordinator		
<b>Total Credits</b>		<b>60-61</b>



## Desktop Publishing Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 520402704

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		42-43
OST 130	Typography	3
OST 220	Administrative Office Simulations	3
OST 225	Introduction to Desktop Publishing	3
OST 250	Advanced Desktop Publishing	3
OST 255	Introduction to Business Graphics	3
OST 272	Presentation Graphics	3
OST 295	Administrative Office Technology Internship	2-3
or COE 199	Cooperative Education: (Topic)	
<b>Total Credits</b>		<b>62-64</b>

## Financial Assistant Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 520402703

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		42-43
Select one of the following two options:		6
ACT 101 & ACT 102	Fundamentals of Accounting I and Fundamentals of Accounting II	
ACC 201 & ACC 202	Financial Accounting and Managerial Accounting	
ACT 279	Computerized Accounting Systems	3
OST 295	Administrative Office Technology Internship	3
or COE 199	Cooperative Education: (Topic)	
Select two of the following eight options:		6
ACT 196	Payroll Accounting	
BAS 120	Personal Finance	
BAS 160	Introduction to Business	
ENG 102	Writing II	
MIT 103	Medical Office Terminology	
OST 112	Financial Management	
OST 213	Business Calculations for The Office Professional	
OST 225	Introduction to Desktop Publishing	
<b>Total Credits</b>		<b>60-61</b>

## Legal Administrative Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 520402705

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		42-43
Select one of the following two options:		6
ACT 101 & ACT 102	Fundamentals of Accounting I and Fundamentals of Accounting II	
ACC 201 & ACC 202	Financial Accounting and Managerial Accounting	
ACT 279	Computerized Accounting Systems	3
BAS 267	Introduction to Business Law	3
OST 109	Legal Terminology	3
OST 221	Legal Office Simulation	3
Select one of the following three options:		3
MIT 103	Medical Office Terminology	
CLA 131	Medical Terminology from Greek and Latin	
AHS 115	Medical Terminology	
<b>Total Credits</b>		<b>63-64</b>

## Administrative Assistant - Diploma

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 5204024019

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
or OST 108	Editing Skills for Office Professionals	
Choose one of the following options:		3
MAT 105	Business Mathematics	
Or Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Technical Courses</b>		
ACT 101	Fundamentals of Accounting I	3
or ACC 201	Financial Accounting	
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 210	Advanced Word Processing Applications	3
OST 215	Office Procedures	3
OST 225	Introduction to Desktop Publishing	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
OST 295	Administrative Office Technology Internship	3
or COE 199	Cooperative Education: (Topic)	
Select two of the following eight options:		6
ACT 279	Computerized Accounting Systems	
BAS 120	Personal Finance	

BAS 160	Introduction to Business	
ENG 102	Writing II	
MIT 103	Medical Office Terminology	
OST 108	Editing Skills for Office Professionals	
OST 150	Transcription and Office Technology	
OST 275	Office Management	
Subtotal		36
<b>Total Credits</b>		<b>42</b>

## Desktop Publishing Specialist - Diploma

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5204024029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following three options:		3
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Technical Courses</b>		
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 130	Typography	3
OST 160	Records and Database Management	3
OST 210	Advanced Word Processing Applications	3
OST 215	Office Procedures	3
OST 225	Introduction to Desktop Publishing	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
OST 250	Advanced Desktop Publishing	3
OST 255	Introduction to Business Graphics	3
OST 272	Presentation Graphics	3
Select one of the following three options:		2-3
OST 220	Administrative Office Simulations	
OST 295	Administrative Office Technology Internship	
COE 199	Cooperative Education: (Topic)	
Subtotal		38-39
<b>Total Credits</b>		<b>44-45</b>

## Financial Assistant - Diploma

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 5204024049

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following three options:		3
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Technical Courses</b>		
Select one of the following two options:		6
ACT 101 & ACT 102	Fundamentals of Accounting I and Fundamentals of Accounting II	
ACC 201 & ACC 202	Financial Accounting and Managerial Accounting	
ACT 279	Computerized Accounting Systems	3
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 215	Office Procedures	3
OST 240	Advanced Microsoft Applications	3
OST 295 or COE 199	Administrative Office Technology Internship Cooperative Education: (Topic)	2-3
Select two of the following seven course options:		6
ACT 196	Payroll Accounting	
BAS 120	Personal Finance	
BAS 160	Introduction to Business	
ENG 102	Writing II	
MIT 103	Medical Office Terminology	
OST 150	Transcription and Office Technology	
OST 225	Introduction to Desktop Publishing	
Subtotal		32-33
<b>Total Credits</b>		<b>38-39</b>

## Legal Office Assistant - Diploma

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5204024059

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
Subtotal		6

**Technical Courses**

ACT 101	Fundamentals of Accounting I	3
or ACC 201	Financial Accounting	
BAS 267	Introduction to Business Law	3
OST 105	Introduction to Information Systems	3
OST 109	Legal Terminology	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 215	Office Procedures	3
OST 221	Legal Office Simulation	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
OST 295	Administrative Office Technology Internship	3
or COE 199	Cooperative Education: (Topic)	
Select one of the following six course options:		3
BAS 120	Personal Finance	
BAS 160	Introduction to Business	
ENG 102	Writing II	
MIT 103	Medical Office Terminology	
OST 150	Transcription and Office Technology	
OST 225	Introduction to Desktop Publishing	
Subtotal		36
<b>Total Credits</b>		<b>42</b>

## Office Assistant - Diploma

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 5204024039

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following three options:		3
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Technical Courses</b>		
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 210	Advanced Word Processing Applications	3
OST 215	Office Procedures	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
OST 295	Administrative Office Technology Internship	3

or COE 199	Cooperative Education: (Topic)	
Select two of the following six course options:		6
BAS 120	Personal Finance	
BAS 160	Introduction to Business	
ENG 102	Writing II	
MIT 103	Medical Office Terminology	
OST 150	Transcription and Office Technology	
OST 225	Introduction to Desktop Publishing	
Subtotal		30
<b>Total Credits</b>		<b>36</b>

## Administrative - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5204023039

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
OST 105	Introduction to Information Systems	3
OST 108	Editing Skills for Office Professionals	3
or ENG 101	Writing I	
Select one of the following 3 options:		3
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 215	Office Procedures	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
ACT 101	Fundamentals of Accounting I	3
or ACC 201	Financial Accounting	
OST 150	Transcription and Office Technology	3
or OST 210	Advanced Word Processing Applications	
<b>Total Credits</b>		<b>30</b>

## Basic Business Presentation - Certificate

**Offered at:** Bluegrass Community and Technical College, Hopkinsville Community College

**Program Plan Number:** 5204023119

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
OST 105	Introduction to Information Systems	3
OST 108 or ENG 101	Editing Skills for Office Professionals Writing I	3
OST 225	Introduction to Desktop Publishing	3
OST 255	Introduction to Business Graphics	3
OST 272	Presentation Graphics	3
<b>Total Credits</b>		<b>15</b>

## Client Support Specialist - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5204023169

### Curriculum Effective Spring Semester

Course	Title	Credits
ENG 101	Writing I	3
COM 252	Introduction to Interpersonal Communication	3
BAS 201	Customer Service Improvement Skills	3
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 215	Office Procedures	3
OST 235	Business Communications Technology	3
<b>Total Credits</b>		<b>21</b>

## Data Entry Operator - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5204023079

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
<b>Total Credits</b>		<b>6</b>

## Desktop Publishing - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 5204023099

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
ENG 101 or OST 108	Writing I Editing Skills for Office Professionals	3
Select one of the following three options:		3
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 130	Typography	3
OST 160	Records and Database Management	3
OST 225	Introduction to Desktop Publishing	3
OST 255	Introduction to Business Graphics	3
OST 272	Presentation Graphics	3
<b>Total Credits</b>		<b>27</b>

## Financial Assistant Clerk - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5204023129

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
ACT 101 or ACC 201	Fundamentals of Accounting I Financial Accounting	3
OST 108 or ENG 101	Editing Skills for Office Professionals Writing I	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
Select one of the following four options below:		3
ACT 196	Payroll Accounting	
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
<b>Total Credits</b>		<b>18</b>

## Financial Assistant Trainee - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5204023139

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
OST 105	Introduction to Information Systems	3
ACT 101 or ACC 201	Fundamentals of Accounting I Financial Accounting	3
OST 110	Word Processing Applications	3
Select one of the following four options:		3
ACT 196	Payroll Accounting	
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
<b>Total Credits</b>		<b>12</b>

## Financial Record Keeper - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5204023069

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
OST 105	Introduction to Information Systems	3
Select one of the following two options:		6
ACT 101 & ACT 102	Fundamentals of Accounting I and Fundamentals of Accounting II	
ACC 201 & ACC 202	Financial Accounting and Managerial Accounting	
ACT 279	Computerized Accounting Systems	3
OST 108 or ENG 101	Editing Skills for Office Professionals Writing I	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 215	Office Procedures	3
OST 240	Advanced Microsoft Applications	3
Select one of the following four options:		3
ACT 196	Payroll Accounting	
MAT 105	Business Mathematics	
OST 213	Business Calculations for The Office Professional	
Higher Level Quantitative Reasoning Course		
<b>Total Credits</b>		<b>30</b>

## Integrated Office Skills - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5204023059

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
OST 108 or ENG 101	Editing Skills for Office Professionals Writing I	3
OST 105	Introduction to Information Systems	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
OST 210	Advanced Word Processing Applications	3
OST 215	Office Procedures	3
OST 240	Advanced Microsoft Applications	3
<b>Total Credits</b>		<b>21</b>

## Legal Receptionist - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 5204023149

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
OST 105	Introduction to Information Systems	3
OST 108 or ENG 101	Editing Skills for Office Professionals Writing I	3
OST 109	Legal Terminology	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
<b>Total Credits</b>		<b>15</b>

## Receptionist - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5204023089



May be available completely online. Please check with your academic advisor.

#### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
OST 108 or ENG 101	Editing Skills for Office Professionals Writing I	3
OST 110	Word Processing Applications	3
OST 160	Records and Database Management	3
<b>Total Credits</b>		<b>12</b>

## Advanced Integrated Technology

The Advanced Integrated Technology (AIT) program is a program of study that employs the principle of technology integration within sought after certifications: Multi-skilled Technician, Engineering Controls, Skilled Operator, Industrial Refrigeration, Industrial Electrician and Industrial Mechanic certifications. Within each certification area, a systems approach is employed that is in line with the expectations of current day employers. The AIT program offers both online coursework and flexible lab hours.

The AIT graduate will have acquired a high level of mechanical and electrical skill sets that can provide them with opportunities to work in today's technically advanced industrial settings (both in manufacturing and value-added 2nd tier support roles). These skill sets include robotics and PLC programming, drive configuration, advanced electric motor control, hydraulics/pneumatics, refrigeration and mechanical drive systems used in modern industry. The curriculum addresses mechanical and electrical theory and its application in today's industrial environment. Critical thinking objectives are also incorporated that will expose the student to problem solving strategies and techniques for troubleshooting the latest generation of high tech equipment.

The Utility Technician certificate prepares students to be entry level groundman operators for the electric utility industry. From the groundman operator position, students progress to "lineman" after gaining on-the-job experience.

Students enrolled in the Advanced Integrated Technology Programs are required to achieve a minimum grade of "C" or higher in each technical course.

## Degrees

- Advanced Integrated Technology - AAS (p. 105)

## Certificates

- Ammonia Refrigeration Fundamentals - Certificate (p. 106)
- Electrical Maintenance Technician - Certificate (p. 106)
- Engineering Controls - Certificate (p. 106)
- Industrial Mechanic - Certificate (p. 106)
- Industrial Refrigeration - Certificate (p. 106)
- Multi-Skilled Maintenance Apprenticeship - Certificate (p. 106)
- Multi-Skilled Technician - Certificate (p. 107)
- Skilled Operator - Certificate (p. 107)
- Utility Technician - Certificate (p. 107)

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 102	HVAC Electricity	3
ACR 103	HVAC Electricity Lab	2
ACR 112	Sheet Metal Fabrication	3
ACR 113	Sheet Metal Fabrication Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 170	Heat Load/Duct Design	3
ACR 200	Commercial Refrigeration	3
ACR 201	Commercial Refrigeration Lab	2
ACR 206	Boilers	5
ACR 207	Commercial HVAC Systems	5
ACR 208	Chillers	4
ACR 209	Manual N Commercial Load Calculation and Design	4
ACR 210	Ice Machines	3
ACR 237	Building Controls I	5
ACR 238	Building Controls II	5
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
ACR 260	Heating and Humidification	3
ACR 262	Heating and Humidification Lab	2
ACR 270	Heat Pump Application	3
ACR 271	Heat Pump Application Lab	2
ACR 290	Journeyman Preparation	3
ACR 291	Special Problems I	1
ACR 293	Special Problems II	2
ACR 295	Special Problems III	3
ACR 298	Practicum	2
ACR 299	Cooperative Education Program	2
ADX 120	Basic Automotive Electricity	3
ADX 121	Basic Automotive Electricity Lab	2
ADX 150	Engine Repair	3
ADX 151	Engine Repair Lab	2
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
ADX 260	Electrical Systems	3
ADX 261	Electrical Systems Lab	2
AGR 115	Agriculture Maintenance	3
AGR 150	Agricultural Power	3
AGR 170	Introduction to Equipment, Machines, and Engines	3
AET 190	Industrial Computer Programming Concepts	4
AET 250	PLC Networking	4
AET 270	Advanced PLC Programming	4
AIT 135	Industrial Refrigeration - I	3
AIT 145	Utility Technician I	6
AIT 160	Workplace Safety	1
AIT 200	Process Management and Quality Control	4
AIT 220	The Integrated Power Grid	3
AIT 230	Integrated Power Plant Operations	3

AIT 235	Industrial Refrigeration - II	3	TRU 100	Truck Driving	6
AIT 245	Utility Technician II	6	WLD 100	Oxy-Fuel Systems	2
AIT 290	Selected Topics in Advanced Integrated Technology	0,1-5	WLD 101	Oxy-Fuel Systems Lab	2
AIT 299	Advanced Electromechanical Concepts	4	WLD 120	Shielded Metal Arc Welding	2
AUT 110	Brake Systems	3	WLD 121	Shielded Metal Arc Welding Fillet Lab	3
AUT 111	Brake Systems Lab	2	WLD 123	Shielded Metal Arc Welding Groove with Backing Lab	3
AUT 160	Suspension and Steering	3	WLD 130	Gas Tungsten Arc Welding	2
AUT 161	Suspension and Steering Lab	2	WLD 131	Gas Tungsten Arc Welding Fillet Lab	3
BAS 160	Introduction to Business	3	WLD 140	Gas Metal Arc Welding	2
BRX 110	Basic Blueprint Reading for Machinist	2	WLD 141	Gas Metal Arc Welding Fillet Lab	3
BRX 120	Basic Blueprint Reading	3	WLD 143	Gas Metal Arc Welding Groove Lab	3
BRX 210	Mechanical Blueprint Reading	2	WLD 170	Blueprint Reading for Welding	2
BTS 120	Essentials of Biomedical Electronics I	2	WLD 171	Blueprint Reading for Welding Lab	3
BTS 125	Essentials of Biomedical Electronics II	2	WLD 198	Special Topics in Welding	1-6
CAD 100	Introduction to Computer Aided Design	3	WLD 220	Welding Certification	2
CAD 200	Intermediate Computer Aided Drafting	4	WLD 221	Welding Certification Lab	3
CMM 110	Fundamentals of Machine Tools - A	3	WLD 225	Shielded Metal Arc Welding Open Groove Lab	3
CMM 112	Fundamentals of Machine Tools - B	3	WLD 298	Welding Practicum	1-6
CMM 118	Metrology/Control Charts	2	WLD 299	Cooperative Education Program	1-6
CMM 124	Applied Machining	6	<b>Advanced Integrated Technology - AAS</b>		
CMM 134	Manual Programming CAD/CAM/CNC	6			
CMM 214	Industrial Machining	6	<b>Offered at:</b> Ashland Community and Technical College, Madisonville Community College		
CMM 224	Advanced Industrial Machining	6			
CMM 230	Conversational Programming	6	<b>Program Plan Number:</b> 1504997019		
CMM 240	Introduction to 3-D Programming	6	<b>Curriculum Effective Spring Semester</b>		
DPT 100	Introduction to 3D Printing Technology	3	Students enrolled in the Advanced Integrated Technology Programs are required to achieve a minimum grade of "C" or higher in each technical course.		
DPT 150	Introduction to Engineering Mechanics for 3D Printing	3			
DPT 280	Special Projects for 3D Printing, Level I	1	<b>Course Title Credits</b>		
FRM 100	Fundamentals of Fermentation	1	<b>Required General Education</b>		
FRM 110	Principles of Fermentation Science	3	Select one of the following three options:		3
FRM 120	Brewery Facilities and Operational Management	4	MAT 126	Technical Algebra and Trigonometry	
FRM 160	Beverage Packaging	2	MAT 150	College Algebra	
EET 127	Electrical Technology Capstone	1	Higher MAT course		
EET 154	Electrical Construction I	2	PHY 151	Introductory Physics I	4
EET 155	Electrical Construction I Lab	2	& PHY 161 and Introductory Physics I Laboratory		
EET 250	National Electrical Code	4	or PHY 171 Applied Physics		
EET 252	Electrical Construction II	2	ENG 101	Writing I	3
EET 253	Electrical Construction II Lab	2	or ENG 105 Writing: An Accelerated Course		
EET 264	Rotating Machinery	2	Social/Behavioral Science course		3
EET 265	Rotating Machinery Lab	2	Heritage/Humanities course <sup>1</sup>		3
EET 270	Electrical Motor Controls I	2	Subtotal		16
EET 271	Electrical Motor Controls I Lab	2	<b>Technical Core</b>		
EET 272	Electrical Motor Controls II	2	AIT 100	Power Generation and Utilization	4
EET 273	Electrical Motor Controls II Lab	2	AIT 110	Power Distribution Systems	3
ELT 110	Circuits I	5	AIT 120	Equipment Installation	3
ELT 250	Programmable Logic Controllers	4	AIT 130	Measurement and Instrumentation	4
IMT 100	Welding for Maintenance	3	AIT 140	Industrial Controls I	4
IMT 101	Welding for Maintenance Lab	2			
PLW 100	Introduction to Engineering Design	4			
PLW 125	Principles of Engineering	4			

AIT 150	Industrial Controls II	4
AIT 210	Advanced Equipment Maintenance	4
AIT 270	Introduction to Robotics and Programmable Logic Controllers	2
Subtotal		28
<b>Technical Courses</b>		
Advanced Integrated Technology Elective Courses <sup>2</sup>		16
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> HIS 107 Western Culture: Science and Technology II (3 credit hours) suggested

<sup>2</sup> Advanced Integrated Technology approved elective list (p. 104)

Demonstration of digital literacy is required for the AAS degree.

## Ammonia Refrigeration Fundamentals - Certificate

**Offered at:** Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 1504993160

Course	Title	Credits
AIT 135	Industrial Refrigeration - I	3
AIT 235	Industrial Refrigeration - II	3
<b>Total Credits</b>		<b>6</b>

## Electrical Maintenance Technician - Certificate

**Offered at:** Ashland Community and Technical College, Madisonville Community College

**Program Plan Number:** 1504993170

Course	Title	Credits
AIT 1001	Basic Electrical Knowledge	2
AIT 1002	Power Development	1
AIT 1101	Electrical Power Distribution	1
AIT 1201	Electrical Installation	1
AIT 1301	Principles of Instrumentation	2
AIT 1302	Integrated Process Control	2
AIT 1401	Basic Electrical Controls	2
AIT 1501	Intermediate Electrical Controls	2
AIT 270	Introduction to Robotics and Programmable Logic Controllers	2
<b>Total Credits</b>		<b>15</b>

## Engineering Controls - Certificate

**Offered at:** Ashland Community and Technical College, Madisonville Community College

**Program Plan Number:** 1504993120

Course	Title	Credits
AIT 140	Industrial Controls I	4
AIT 150	Industrial Controls II	4
AET 190	Industrial Computer Programming Concepts	4
ELT 250	Programmable Logic Controllers	4
AET 250	PLC Networking	4
AET 270	Advanced PLC Programming	4
AIT 270	Introduction to Robotics and Programmable Logic Controllers	2
<b>Total Credits</b>		<b>26</b>

## Industrial Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Madisonville Community College

**Program Plan Number:** 1504993180

Course	Title	Credits
AIT 1003	Hydraulic/Pneumatic Fundamentals	1
AIT 1102	Fluid Power Distribution	2
AIT 1202	Piping, Pneumatic, & Installation	1
AIT 1203	Mechanical Installation	1
AIT 1402	Basic Pneumatic Controls	1
AIT 1403	Basic Hydraulic Controls	1
AIT 1502	Intermediate Pneumatic Controls	1
AIT 1503	Intermediate Hydraulic Controls	1
AIT 2101	Predictive/Preventive Maintenance and Lubrication	1
AIT 2102	Power Transmission Systems	1
AIT 2103	Advanced Mechanical	2
<b>Total Credits</b>		<b>13</b>

## Industrial Refrigeration - Certificate

**Offered at:** Madisonville Community College, Maysville Community and Technical College, Somerset Community College

**Program Plan Number:** 1504993140

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 102	HVAC Electricity	3
ACR 103	HVAC Electricity Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
AIT 135	Industrial Refrigeration - I	3
AIT 235	Industrial Refrigeration - II	3
<b>Total Credits</b>		<b>21</b>

## Multi-Skilled Maintenance Apprenticeship - Certificate

**Offered at:** Ashland Community and Technical College, Madisonville Community College

**Program Plan Number:** 1504993150

Course	Title	Credits
AIT 1001	Basic Electrical Knowledge	2
AIT 1003	Hydraulic/Pneumatic Fundamentals	1
AIT 1101	Electrical Power Distribution	1
AIT 1102	Fluid Power Distribution	2
AIT 1201	Electrical Installation	1
AIT 1202	Piping, Pneumatic, & Installation	1
AIT 1203	Mechanical Installation	1
AIT 1301	Principles of Instrumentation	2
AIT 1302	Integrated Process Control	2
AIT 1401	Basic Electrical Controls	2
AIT 1402	Basic Pneumatic Controls	1
AIT 1403	Basic Hydraulic Controls	1
AIT 1501	Intermediate Electrical Controls	2
AIT 1502	Intermediate Pneumatic Controls	1
AIT 1503	Intermediate Hydraulic Controls	1
AIT 160	Workplace Safety	1
AIT 2101	Predictive/Preventive Maintenance and Lubrication	1
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
<b>Total Credits</b>		<b>28</b>

## Multi-Skilled Technician - Certificate

**Offered at:** Ashland Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 1504993110

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
CMM 112	Fundamentals of Machine Tools - B	3
AIT 200	Process Management and Quality Control	4
AIT 270	Introduction to Robotics and Programmable Logic Controllers	2
<b>Total Credits</b>		<b>19</b>

## Skilled Operator - Certificate

**Offered at:** Ashland Community and Technical College, Madisonville Community College

**Program Plan Number:** 1504993190

Course	Title	Credits
AIT 100	Power Generation and Utilization	4
AIT 110	Power Distribution Systems	3
AIT 1203	Mechanical Installation	1
<b>Total Credits</b>		<b>8</b>

## Utility Technician - Certificate

**Offered at:** Ashland Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College

**Program Plan Number:** 1504993210

Course	Title	Credits
AIT 145	Utility Technician I	6
AIT 245	Utility Technician II	6
<b>Total Credits</b>		<b>12</b>

## African American Studies

The African American Studies Certificate Program provides an interdisciplinary approach to identify and engage the historical and contemporary issues confronting Africans and African Americans. Core courses include African American history, literature, and music. Additional courses in communication, humanities, and social sciences complete the program.

### Certificates

- African American Studies - Certificate (p. 107)

## African American Studies - Certificate

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 0501013029

Course	Title	Credits
ENG 101	Writing I	3
HIS 260	African American History to 1865	3
HIS 261	African-American History 1865 - Present	3
MUS 207	African American Music History	3
ENG 264	Major Black Writers	3
Elective		3
<b>Total Credits</b>		<b>18</b>

## African American Studies Certificate Electives

Course	Title	Credits
Select one of the following:		3
COM 299	Special Topics in Communication	3
ANT 160	Cultural Diversity in the Modern World	3
FLK 280	Cultural Diversity in the United States	3
SOC 235	Inequality in Society	3
MUS 104	Introduction to Jazz History	3
HUM 150	Introduction to African Literature	3
REL 101	Introduction to Religious Studies	3
REL 130	Introduction to Comparative Religion	3
ART 104	Introduction to African Art	3

## Agriculture

The Agriculture program prepares students for occupations in a wide variety of jobs in agriculture (both production and value-added) with a range of skills and knowledge.

The curriculum addresses concepts in theory, skills, and techniques that are required by the agriculture industry. It will use hands-on strategies, which require an integrated practicum across a variety of settings. Graduates will seek job opportunities in the agriculture industry on commercial farms and businesses related to the agriculture industry, return to their current agriculture occupation, or further their education at a four-year university.

## Degrees

- Agriculture - AAS (p. 108)
  - Agriculture Business/Marketing Track (p. 108)
  - Agriculture Education Track (p. 109)
  - Agriculture Technology Track (p. 109)
  - Agronomy Track (p. 109)
  - Horticulture Track (p. 109)
  - Sustainable Agriculture Track (p. 109)
  - Animal Science Track (p. 109)

## Diplomas

- Agriculture - Diploma (p. 110)
  - Agriculture Business/Marketing Track (p. 110)
  - Agriculture Education Track (p. 110)
  - Agriculture Technology Track (p. 110)
  - Agronomy Track (p. 110)
  - Horticulture Track (p. 111)
  - Sustainable Agriculture Track (p. 111)
  - Animal Science Track (p. 111)

## Certificates

- Agriculture Business/Marketing - Certificate (p. 111)
- Agriculture Education - Certificate (p. 111)
- Agriculture Technology - Certificate (p. 111)
- Agronomy - Certificate (p. 112)
- Animal Science - Certificate (p. 112)
- Horticulture - Certificate (p. 112)
- Sustainable Agriculture - Certificate (p. 112)

## Agriculture - AAS

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 0103017039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3

ENG 102	Writing II	3
COM 181	Basic Public Speaking	3
Select one of the following four options:		3
MAT 110	Applied Mathematics	
MAT 116	Technical Mathematics	
MAT 126	Technical Algebra and Trigonometry	
MAT 150	College Algebra	
AGR 101	The Economics of Food and Agriculture	3
Heritage/Humanities		3
Select one of the following six options:		4-5
BIO 112 & BIO 113	Introduction to Biology and Introduction to Biology Lab	
BIO 114 & BIO 115	Biology I and Biology Laboratory I	
BIO 116 & BIO 117	Biology II and Biology Laboratory II	
BIO 143	Zoology with Laboratory	
BIO 141	Botany with Laboratory	
BIO 150 & BIO 151	Principles of Biology I and Principles of Biology Laboratory I	
Select one of the following three options:		4
CHE 130 & CHE 135	Introductory General and Biological Chemistry and Introductory General and Biological Chemistry Laboratory	
CHE 140 & CHE 145	Introductory General Chemistry and Introductory General Chemistry Laboratory	
CHE 170 & CHE 175	General College Chemistry I and General College Chemistry Laboratory I	
Subtotal		26-27
<b>Technical Core</b>		
AGR 125	Introduction to Fertilizers and Soils	3
AGR 130	Field Applications in Agriculture	2
AGR 140	Issues In Agriculture	3
AGR 230	Career Development in Agriculture	3
AGR 240	Introduction to Animal Science	3
AGR 250	Introduction to Plants/Crop Production	3
Digital Literacy		3
Subtotal		20
General Education and Technical Core Subtotal		46-47
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

## Agriculture Business/Marketing Track

**Offered at:** Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 010301705

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		46-47
AGR 180	Agricultural Internship I	2
BAS 120	Personal Finance	3
<b>Options</b>		



Select one of the following two options: 9

*Option 1*

ECO 201 & ECO 202 & BAS 160	Principles of Microeconomics and Principles of Macroeconomics and Introduction to Business
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*Option 2*

AGR 175 & AGR 285 & AGR 265	Agriculture Marketing and Sales and Farm Financial Management and Agriculture Business and Records
Two credit hours of Elective Coursework	

**Total Credits** 60-61

## Agriculture Education Track

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 010301706

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
AGR 150 or AGR 160	Agricultural Power Horticultural Science	3
AGR 180	Agricultural Internship I	2
EDU 201	Introduction to American Education	3
EDU 204	Technology In the Classroom	3
Electives		3
<b>Total Credits</b>		<b>60-61</b>

## Agriculture Technology Track

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 010301707

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
AGR 150	Agricultural Power	3
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 130 & WLD 131	Gas Tungsten Arc Welding and Gas Tungsten Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
AGR 220	Computers In The Agricultural Environment	3
COE 199	Cooperative Education: (Topic)	3
<b>Total Credits</b>		<b>60-61</b>

## Agromony Track

**Offered at:** Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 010301708

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
AGR 135	Herbaceous Plant Production	3
AGR 215	Weed Management	3
AGR 245	Pest Management	3
AGR 180	Agricultural Internship I	2
Electives		3
<b>Total Credits</b>		<b>60-61</b>

## Animal Science Track

**Offered at:** Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 010301711

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
AGR 180	Agricultural Internship I	2
AGR 280	Livestock Management	3
AGR 290	Animal Nutrition	3
AGR 210	Applications in Animal Technology	3
Elective		3
<b>Total Credits</b>		<b>60-61</b>

## Horticulture Track

**Offered at:** Henderson Community College, Madisonville Community College

**Program Plan Number:** 010301709

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
AGR 160	Horticultural Science	3
AGR 180	Agricultural Internship I	2
AGR 135	Herbaceous Plant Production	3
AGR 155	Greenhouse Production	3
AGR 225	Fruit and Vegetable Production	3
<b>Total Credits</b>		<b>60-61</b>

## Sustainable Agriculture Track

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Madisonville Community College

**Program Plan Number:** 010301710

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
AGR 160	Horticultural Science	3
AGR 180	Agricultural Internship I	2
AGR 260	Introduction to Sustainable Agriculture	3
AGR 270	Introduction to Organic Agriculture	3

Elective	3
<b>Total Credits</b>	<b>60-61</b>

## Agriculture - Diploma

**Offered at:** Henderson Community College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 0103014039

Course	Title	Credits
<b>General Education</b>		
Select one of the following two options:		3
ENG 101	Writing I	
Heritage/Humanities		
Select one of the following four options:		3
Social/Behavioral Science		
Natural Science		
Quantitative Reasoning		
AGR 101	The Economics of Food and Agriculture	
Subtotal		6
<b>Technical Core</b>		
CIT 105	Introduction to Computers	3
AGR 125	Introduction to Fertilizers and Soils	3
AGR 130	Field Applications in Agriculture	2
AGR 140	Issues In Agriculture	3
AGR 230	Career Development in Agriculture	3
AGR 240	Introduction to Animal Science	3
AGR 250	Introduction to Plants/Crop Production	3
Technical Core Subtotal		20
General Education and Technical Core Subtotal		26

*Students must complete one of the tracks listed below to complete the Diploma requirements.*

## Agriculture Business/Marketing Track

**Offered at:** Henderson Community College, Hopkinsville Community College

**Program Plan Number:** 010301401

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		26
AGR 180	Agricultural Internship I	2
BAS 120	Personal Finance	3
<b>Options</b>		
Select one of the following options two options:		9
<i>Option 1</i>		
ECO 201 & ECO 202 & BAS 160	Principles of Microeconomics and Principles of Macroeconomics and Introduction to Business	
<i>Option 2</i>		
AGR 175 & AGR 285 & AGR 265	Agriculture Marketing and Sales and Farm Financial Management and Agriculture Business and Records	

Two credits of Electives	
<b>Total Credits</b>	<b>40</b>

## Agriculture Education Track

**Offered at:** Henderson Community College, Hopkinsville Community College

**Program Plan Number:** 010301402

Course	Title	Credits
General Education and Technical Core Subtotal		26
AGR 150 or AGR 160	Agricultural Power Horticultural Science	3
AGR 180	Agricultural Internship I	2
EDU 201	Introduction to American Education	3
EDU 204	Technology In the Classroom	3
Electives		3
<b>Total Credits</b>		<b>40</b>

## Agriculture Technology Track

**Offered at:** Henderson Community College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 010301403

Course	Title	Credits
General Education and Technical Core Subtotal		26
AGR 150	Agricultural Power	3
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 130 & WLD 131	Gas Tungsten Arc Welding and Gas Tungsten Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
AGR 220	Computers In The Agricultural Environment	3
COE 199	Cooperative Education: (Topic)	3
<b>Total Credits</b>		<b>40</b>

## Agromony Track

**Offered at:** Henderson Community College, Hopkinsville Community College

**Program Plan Number:** 010301404

Course	Title	Credits
General Education and Technical Core Subtotal		26
AGR 135	Herbaceous Plant Production	3
AGR 215	Weed Management	3
AGR 245	Pest Management	3
AGR 180	Agricultural Internship I	2
Electives		3
<b>Total Credits</b>		<b>40</b>

## Animal Science Track

**Offered at:** Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 010301407

Course	Title	Credits
General Education and Technical Core Subtotal		26
AGR 180	Agricultural Internship I	2
AGR 280	Livestock Management	3
AGR 290	Animal Nutrition	3
AGR 210	Applications in Animal Technology	3
Elective		3
<b>Total Credits</b>		<b>40</b>

## Horticulture Track

**Offered at:** Henderson Community College

**Program Plan Number:** 010301405

Course	Title	Credits
General Education and Technical Core Subtotal		26
AGR 160	Horticultural Science	3
AGR 180	Agricultural Internship I	2
AGR 135	Herbaceous Plant Production	3
AGR 155	Greenhouse Production	3
AGR 225	Fruit and Vegetable Production	3
<b>Total Credits</b>		<b>40</b>

## Sustainable Agriculture Track

**Offered at:** Henderson Community College

**Program Plan Number:** 010301406

Course	Title	Credits
General Education and Technical Core Subtotal		26
AGR 160	Horticultural Science	3
AGR 180	Agricultural Internship I	2
AGR 260	Introduction to Sustainable Agriculture	3
AGR 270	Introduction to Organic Agriculture	3
Electives		3
<b>Total Credits</b>		<b>40</b>

## Agriculture Business/Marketing - Certificate

**Offered at:** Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 0103013039

Course	Title	Credits
<b>Required</b>		
AGR 180	Agricultural Internship I	2
BAS 120	Personal Finance	3

### Options

Select one of the following two options:

9

#### Option 1

ECO 201 & ECO 202 & BAS 160	Principles of Microeconomics and Principles of Macroeconomics and Introduction to Business
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#### Option 2

AGR 175 & AGR 285 & AGR 265	Agriculture Marketing and Sales and Farm Financial Management and Agriculture Business and Records
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Two credits of Electives

**Total Credits**

14

## Agriculture Education - Certificate

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 0103013049

Course	Title	Credits
AGR 150 or AGR 160	Agricultural Power Horticultural Science	3
AGR 180	Agricultural Internship I	2
EDU 201	Introduction to American Education	3
EDU 204	Technology In the Classroom	3
Electives		3
<b>Total Credits</b>		<b>14</b>

## Agriculture Technology - Certificate

**Offered at:** Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 0103013059

Course	Title	Credits
AGR 150	Agricultural Power	3
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 130 & WLD 131	Gas Tungsten Arc Welding and Gas Tungsten Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
AGR 220	Computers In The Agricultural Environment	3
COE 199	Cooperative Education: (Topic)	3
<b>Total Credits</b>		<b>14</b>

## Agronomy - Certificate

**Offered at:** Henderson Community College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 0103013069

Course	Title	Credits
AGR 135	Herbaceous Plant Production	3
AGR 215	Weed Management	3
AGR 245	Pest Management	3
AGR 180	Agricultural Internship I	2
Electives		3
<b>Total Credits</b>		<b>14</b>

## Animal Science - Certificate

**Offered at:** Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 0103013099

Course	Title	Credits
AGR 180	Agricultural Internship I	2
AGR 280	Livestock Management	3
AGR 290	Animal Nutrition	3
AGR 210	Applications in Animal Technology	3
Elective		3
<b>Total Credits</b>		<b>14</b>

## Horticulture - Certificate

**Offered at:** Hazard Community and Technical College, Henderson Community College, Madisonville Community College

**Program Plan Number:** 0103013079

Course	Title	Credits
AGR 160	Horticultural Science	3
AGR 180	Agricultural Internship I	2
AGR 135	Herbaceous Plant Production	3
AGR 155	Greenhouse Production	3
AGR 225	Fruit and Vegetable Production	3
<b>Total Credits</b>		<b>14</b>

## Sustainable Agriculture - Certificate

**Offered at:** Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Madisonville Community College

**Program Plan Number:** 0103013089

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
AGR 160	Horticultural Science	3
AGR 180	Agricultural Internship I	2
AGR 260	Introduction to Sustainable Agriculture	3
AGR 270	Introduction to Organic Agriculture	3
Electives		3
<b>Total Credits</b>		<b>14</b>

## Air Conditioning Technology

Installing and servicing heating, air conditioning and refrigeration equipment is the focus of this program. Academic courses, theory courses, and laboratory experiences are designed to promote success in the air conditioning field.

The Boiler Maintenance Certificate is designed to complement our Associate in Applied Science (AAS) and Diploma for students enrolled in Air Conditioning Technology Program. Installing, initial start-up and servicing commercial boilers used in HVAC applications is the focus of this certificate. Theory courses and laboratory experiences are designed to promote success in boiler service and facility management.

The Chiller Certificate is designed to complement our Associate in Applied Science and Diploma for students enrolled in Air Conditioning Technology Program. Installing and servicing Chillers used in commercial and industrial applications is the focus of this certificate. Theory courses and laboratory experiences are designed to promote success in the service and maintenance of Chillers.

Students enrolled in the Air Conditioning Technology program must achieve a minimum grade of "C" in each technical course.

## Degrees

- Air Conditioning Technology - AAS (p. 114)
  - Air Conditioning Technology Track (p. 114)
- Commercial Air Conditioning Technology Track (p. 114)
- Commercial Systems and Building Controls Technology Track (p. 115)

## Diplomas

- Heating, Ventilation, and Air Conditioning Mechanic - Diploma (p. 115)

## Certificates

- Boiler Maintenance - Certificate (p. 115)
- Building Controls Technician - Certificate (p. 116)
- Chiller Maintenance - Certificate (p. 116)
- Domestic Air Conditioner and Furnace Installer - Certificate (p. 116)
- Environmental Control System Servicer - Certificate (p. 116)
- Environmental System Repair Helper - Certificate (p. 117)
- Refrigeration Mechanic - Certificate (p. 117)

## Air Conditioning Technical Electives

This list is not all-inclusive. Other courses may be taken with approval of the program instructor/advisor.

Course	Title	Credits			
ACR 112	Sheet Metal Fabrication	3	EET 266	Rotating Machinery and Transformers	3
ACR 113	Sheet Metal Fabrication Lab	2	EET 267	Rotating Machinery and Transformers Lab	3
ACR 200	Commercial Refrigeration	3	EET 268	Rotating Machinery Electrical Motor Controls I	3
ACR 201	Commercial Refrigeration Lab	2	EET 269	Rotating Machinery and Motor Controls I Lab	4
ACR 206	Boilers	5	EET 270	Electrical Motor Controls I	2
ACR 207	Commercial HVAC Systems	5	EET 271	Electrical Motor Controls I Lab	2
ACR 208	Chillers	4	EET 272	Electrical Motor Controls II	2
ACR 209	Manual N Commercial Load Calculation and Design	4	EET 273	Electrical Motor Controls II Lab	2
ACR 210	Ice Machines	3	EET 274	Electrical Motor Controls	3
ACR 237	Building Controls I	5	EET 275	Electrical Motor Controls Lab	4
ACR 238	Building Controls II	5	EET 276	Programmable Logic Controllers	2
ACR 290	Journeyman Preparation	3	EET 277	Programmable Logic Controllers Lab	2
ACR 291	Special Problems I	1	EET 281	Special Problems I	1
ACR 293	Special Problems II	2	EET 283	Special Problems II	2
ACR 295	Special Problems III	3	EET 285	Special Problems III	3
ACR 298	Practicum	2	EET 286	Programmable Logic Controllers II	2
ACR 299	Cooperative Education Program	2	EET 287	Programmable Logic Controllers II Lab	2
BAS 120	Personal Finance	3	EET 298	Practicum	1-8
BAS 160	Introduction to Business	3	EET 299	Cooperative Education Program	1-8
BAS 170	Entrepreneurship	3	EGY 240	Energy Efficiency and Analysis	4
BEX 100	Basic Electricity for Non-Majors	3	ELT 102	Blueprint Reading	2
BEX 101	Basic Electricity Lab for Non-Majors	2	ELT 106	Mechanical Engineering Graphics	2
BRX 110	Basic Blueprint Reading for Machinist	2	ELT 107	Computer Applications for Technicians	4
BRX 112	Blueprint Reading for Machinist	4	ELT 110	Circuits I	5
BRX 120	Basic Blueprint Reading	3	ELT 114	Circuits II	5
BRX 210	Mechanical Blueprint Reading	2	ELT 118	Computer Numerical Control	3
BRX 220	Blueprint Reading for Construction	3	ELT 122	Mechanical Power Transmission Systems	3
CAD 100	Introduction to Computer Aided Design	3	ELT 124	Mechanical Power Transmission Systems Lab	1
CAD 102	Drafting Fundamentals	4	ELT 201	Statics and Strength of Materials	4
CIT 105	Introduction to Computers	3	ELT 210	Devices I	4
CIT 111	Computer Hardware and Software	4	ELT 232	Computer Software Maintenance	3
CIT 160	Intro to Networking Concepts	4	ELT 234	Computer Hardware Maintenance	3
CIT 161	Introduction to Networks	4	ELT 244	Electrical Machinery and Controls	4
COE 199	Cooperative Education: (Topic)	1-8	ELT 250	Programmable Logic Controllers	4
CPR 100	CPR for Healthcare Professionals	1	ELT 261	Instrumentation and Measurements	3
EET 116	Fiber Optics Systems	3	ELT 264	Mechanical Design	4
EET 118	Residential Network Wiring	3	ELT 265	Applied Fluid Power	3
EET 148	Electronic Drafting	3	ELT 290	Selected Topics in Engineering Technology: (Topic)	1-4
EET 150	Transformers	2	ELT 295	Independent Problems	1-2
EET 151	Transformers Lab	1	ET 113	Laser Optics Components	3
EET 154	Electrical Construction I	2	ETT 114	Voice & Data Installer Level II	4
EET 155	Electrical Construction I Lab	2	ETT 120	Project Management	3
EET 198	Practicum	2	ETT 122	Voice & Data Installer Technician	3
EET 199	Cooperative Education Program	2	ETT 123	Voice & Data Installer Technician Lab	2
EET 250	National Electrical Code	4	FPX 100	Fluid Power	3
EET 252	Electrical Construction II	2	FPX 101	Fluid Power Lab	2
EET 254	Electrical Construction	3	IET 102	Preventive Maintenance	2
EET 255	Electrical Construction Lab	4	IET 104	Blueprint Reading/Schematics	2
EET 264	Rotating Machinery	2	IET 107	Basic Electricity/Electronics	3
EET 265	Rotating Machinery Lab	2	IET 109	Safety	3
			IET 201	Electrohydraulics/Pneumatics	6
			IET 203	Programmable Logic Controllers	5



IET 206	Controls and Instrumentation	5
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
ISX 1003	CPR & First Aid	1
ISX 105	General Industrial Safety	2
ISX 1051	10-hour General Industry	0.67
ISX 1052	General Industry Topics	1.33
ME 205	Introduction to Computer Graphics	3
ME 220	Engineering Thermodynamics I	3
MNG 123	Mining Electricity I	4
MNG 286	Roof Control and Ventilation	3
PLB 100	Basic Theory of Plumbing	3
PLB 105	Plumbing Principles	3
PLB 150	Plumbing, Introduction to the Trade	3
PLB 151	Basic Plumbing Skills	3
WLD 100	Oxy-Fuel Systems	2
WLD 101	Oxy-Fuel Systems Lab	2
WLD 110	Cutting Processes	2
WLD 111	Cutting Processes Lab	3
WLD 120	Shielded Metal Arc Welding	2
WLD 130	Gas Tungsten Arc Welding	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab	3

## Air Conditioning Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4702017019

Students enrolled in the Air Conditioning Technology program must achieve a minimum grade of "C" in each technical course.

Course	Title	Credits
<b>General Education</b>		
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Written Communication		3
Subtotal		15
<b>Technical Courses</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
Select one of the following two options:		4-5
ACR 102	HVAC Electricity	
& ACR 103	and HVAC Electricity Lab	
Comparable Electrical Course		
Subtotal		9-13

General Education and Technical Subtotal	24-28
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*Students must complete one of the tracks listed below to complete the AAS requirements.*

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Air Conditioning Technology Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 470201701

Course	Title	Credits
General Education and Technical Core Subtotal		24-28
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 170	Heat Load/Duct Design	3
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
ACR 260	Heating and Humidification	3
ACR 262	Heating and Humidification Lab	2
ACR 270	Heat Pump Application	3
ACR 271	Heat Pump Application Lab	2
ACR 290	Journeyman Preparation	3
Electives		10-12
<b>Total Credits</b>		<b>60-66</b>

## Commercial Air Conditioning Technology Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 470201702

Course	Title	Credits
General Education and Technical Core Subtotal		24-28
EET 270	Electrical Motor Controls I	2
EET 271	Electrical Motor Controls I Lab	2
ACR 206	Boilers	5
ACR 207	Commercial HVAC Systems	5
ACR 208	Chillers	4
ACR 209	Manual N Commercial Load Calculation and Design	4
ACR 290	Journeyman Preparation	3
Technical Electives		11-13
<b>Total Credits</b>		<b>60-66</b>

## Commercial Systems and Building Controls Technology Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 470201703

Course	Title	Credits
General Education and Technical Core Subtotal		24-28
CIT 160	Intro to Networking Concepts	4
EET 270	Electrical Motor Controls I	2
EET 271	Electrical Motor Controls I Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
ACR 206	Boilers	5
ACR 207	Commercial HVAC Systems	5
ACR 208	Chillers	4
ACR 237	Building Controls I	5
ACR 238	Building Controls II	5
ACR 290	Journeyman Preparation	3
<b>Total Credits</b>		<b>63-67</b>

## Heating, Ventilation, and Air Conditioning Mechanic - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702014009

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2

Select one of the following two options:		4-5
ACR 102 & ACR 103	HVAC Electricity and HVAC Electricity Lab	
<b>Comparable Electrical Course</b>		
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 170	Heat Load/Duct Design	3-4
or ACR 209	Manual N Commercial Load Calculation and Design	
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
ACR 260	Heating and Humidification	3
ACR 262	Heating and Humidification Lab	2
Select one of the following two options:		5
ACR 270 & ACR 271	Heat Pump Application and Heat Pump Application Lab	
ACR 207	Commercial HVAC Systems	
ACR 291	Special Problems I	1-2
or ACR 298	Practicum	
Electives		9-12
Subtotal		42-51
<b>Total Credits</b>		<b>48-57</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Comparable Electrical Courses

Course	Title	Credits
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	4
ELT 110	Circuits I	5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	5

Course approved by Program Coordinator

## Boiler Maintenance - Certificate

**Offered at:** Bluegrass Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702013079

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 102 & ACR 103	HVAC Electricity and HVAC Electricity Lab	5
ACR 206	Boilers	5
ACR 207	Commercial HVAC Systems	5
<b>Total Credits</b>		<b>20</b>

## Building Controls Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4702013099

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 102	HVAC Electricity	3
ACR 103	HVAC Electricity Lab	2
CIT 105	Introduction to Computers	3
CIT 160	Intro to Networking Concepts	4
EET 270	Electrical Motor Controls I	2
EET 271	Electrical Motor Controls I Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
ACR 237	Building Controls I	5
ACR 238	Building Controls II	5
<b>Total Credits</b>		<b>35</b>

## Chiller Maintenance - Certificate

**Offered at:** Bluegrass Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702013089

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 102	HVAC Electricity	3
ACR 103	HVAC Electricity Lab	2
ACR 208	Chillers	4
ACR 209	Manual N Commercial Load Calculation and Design	4
<b>Total Credits</b>		<b>18</b>

## Domestic Air Conditioner and Furnace Installer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky

Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702013029

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
Select one of the following two options:		4-5
ACR 102 & ACR 103	HVAC Electricity and HVAC Electricity Lab	
OR Comparable Electrical Course		
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 170	Heat Load/Duct Design	3
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
ACR 260	Heating and Humidification	3
ACR 262	Heating and Humidification Lab	2
ACR 270	Heat Pump Application	3
ACR 271	Heat Pump Application Lab	2
ACR 290	Journeyman Preparation	3
<b>Total Credits</b>		<b>35-36</b>

## Environmental Control System Servicer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702013039

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
Select one of the following two options:		4-5
ACR 102 & ACR 103	HVAC Electricity and HVAC Electricity Lab	
OR Comparable Electrical Course		
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
ACR 260	Heating and Humidification	3
ACR 262	Heating and Humidification Lab	2
<b>Total Credits</b>		<b>24-25</b>

## Environmental System Repair Helper - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702013069

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
Select one of the following three options:		4-5
ACR 102 & ACR 103	HVAC Electricity and HVAC Electricity Lab	
ACR 130 & ACR 131	Electrical Components and Electrical Components Lab	
OR Comparable Electrical Course		
<b>Total Credits</b>		<b>9-10</b>

## Refrigeration Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4702013059

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
Select one of the following two options:		4-5
ACR 102 & ACR 103	HVAC Electricity and HVAC Electricity Lab	
OR Comparable Electrical Course		
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 200	Commercial Refrigeration	3
ACR 201	Commercial Refrigeration Lab	2
ACR 210	Ice Machines	3
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
<b>Total Credits</b>		<b>27-28</b>

## Appalachian Studies

The Appalachian Studies certificate will provide students a wide variety of academic directions to follow. The key components for each track, HUM 202 Survey of Appalachian Studies I (3 credit hours), HUM 203 Survey of Appalachian Studies II (3 credit hours), and HUM 204 Appalachian Seminar (3 credit hours), will form the core for the Appalachian Studies certificate and will provide a basic overview of all aspects of Appalachian studies. Given this core, students can then select a more focused aspect of Appalachian culture to study.

### Certificates

- Appalachian Studies - Certificate (p. 117)
  - Communication Track (p. 117)
  - Creative Writing Track (p. 117)
  - Music Track (p. 118)
  - Science Track (p. 118)
  - Social Science Track (p. 118)

## Appalachian Studies - Certificate

**Offered at:** Ashland Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 0501223069

Course	Title	Credits
<b>Core</b>		
HUM 202	Survey of Appalachian Studies I	3
HUM 203	Survey of Appalachian Studies II	3
HUM 204	Appalachian Seminar	3
Core Subtotal		9
<i>Students must complete one of the tracks listed below to complete the certificate requirements.</i>		

### Communication Track

**Offered at:** Ashland Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 050122301

Course	Title	Credits
Core Subtotal		9
Select one of the following two options:		3
COM 254	Introduction to Intercultural Communication	
Elective approved by Appalachian Studies Committee or its designee		
<b>Total Credits</b>		<b>12</b>

### Creative Writing Track

**Offered at:** Ashland Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 050122302

Course	Title	Credits
Core Subtotal		9
Select one of the following two options:		3

ENG 207 Creative Writing: (Subtitle Required)

Elective approved by Appalachian Studies Committee or its designee

**Total Credits** 12

## Music Track

**Offered at:** Ashland Community and Technical College, Southeast Kentucky Community and Technical College**Program Plan Number:** 050122303

Course	Title	Credits
Core Subtotal		9
MU 101	Folk and Traditional Music of the Western Continents	3
<b>Total Credits</b>		<b>12</b>

## Science Track

**Offered at:** Ashland Community and Technical College, Southeast Kentucky Community and Technical College**Program Plan Number:** 050122304

Course	Title	Credits
Core Subtotal		9
Select one of the following two options:		3
BIO 120	Human Ecology	
Elective approved by Appalachian Studies Committee or its designee		
GLY 101	Physical Geology	3
GLY 111	Physical Geology Laboratory	1
<b>Total Credits</b>		<b>16</b>

## Social Science Track

**Offered at:** Ashland Community and Technical College, Southeast Kentucky Community and Technical College**Program Plan Number:** 050122305

Course	Title	Credits
Core Subtotal		9
Select one of the following two options:		3
SWK 275	The Family	
Elective approved by Appalachian Studies Committee or its designee		
ANT 220	Introduction to Cultural Anthropology	3
<b>Total Credits</b>		<b>15</b>

## Applied Engineering Technology

The Applied Engineering Technology curriculum (AET) introduces students to basic experimental engineering principles and concepts by applying contemporary skills and knowledge in a variety of employment positions based on industry needs. It provides students with a strong foundation of engineering practices to stimulate their interest by using a problem-solving approach in state-of-the-art laboratories.

## Certificates

- Alternative Energy - Certificate (p. 118)

## Alternative Energy - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College**Program Plan Number:** 1504993099

Course	Title	Credits
AET 102	Introduction to Energy	4
Select one of the following two options:		4
AET 110	Introduction to Circuit Analysis	
Electrical course approved by Program Coordinator		
AET 114	Solar and Wind Energy Generation	4
Select one of the following three options:		3
MAT 126	Technical Algebra and Trigonometry	
MAT 150	College Algebra	
Higher Level Mathematics Course		
Approved Technical Elective		3-5
<b>Total Credits</b>		<b>18-20</b>

## Applied Process Technologies

Prepares the graduate for entry-level operations in the power plant, lineman, chemical, petro-chemical, refining, and general industries. Teaches students about automated and semi-automated systems used in various industries. Prepares students in the safe start-up, operation and shutdown of various system components and units. Offers a choice of AAS degree with chemical/refinery operator, power plant operator, and lineman technology, as well as certificate tracks.

Students selecting the certificate options must test at the MAT 126 Technical Algebra and Trigonometry (3 credit hours) ready level.

Progression in the Applied Process Technologies program is contingent upon achievement of a grade of "C" or higher in Math, Physics, Chemistry, and technical courses and the maintenance of a 2.0 cumulative grade point average or better on a 4.0 scale.

## Degrees

- Applied Process Technologies - AAS (p. 119)
  - Chemical/Refinery Operator Track (p. 119)
  - Lineman Technology Track (p. 119)
  - Power Plant Operator Track (p. 119)

## Certificates

- Basic Lineman - Certificate (p. 119)
- Chemical/Refinery Operator - Certificate (p. 120)
- Industrial Worker - Certificate (p. 120)
- Lineman - Certificate (p. 120)
- Power Plant Operator - Certificate (p. 120)



## Applied Process Technologies - AAS

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 4103017029

Progression in the Applied Process Technologies program is contingent upon achievement of a grade of "C" or higher in Math, Physics, Chemistry, and technical courses and the maintenance of a 2.0 cumulative grade point average or better on a 4.0 scale.

Course	Title	Credits
<b>General Education Courses</b>		
MAT 126	Technical Algebra and Trigonometry (Recommended)	3
or MAT 116	Technical Mathematics	
Select one of the following two options:		4
CHE 130	Introductory General and Biological Chemistry	
CHE 140 & CHE 145	Introductory General Chemistry and Introductory General Chemistry Laboratory	
ENG 101	Writing I	3
Select one of the following two options:		3
Social/Behavioral Sciences		
ECO 101	Contemporary Economic Issues (Recommended)	
Heritage/Humanities		3
COM 252	Introduction to Interpersonal Communication	3
or COM 181	Basic Public Speaking	
Subtotal		19
<b>Technical Core Courses</b>		
Digital Literacy Course		3
PHS 175	Applied Physics (Recommended)	4-6
or PHY 171	Applied Physics	
SFA 101	OSHA, Health, & Environmental Safety	3
APT 102	Process Fundamentals	4
APT 104	Rotating and Reciprocating Equipment	3
APT 106	Process Chemistry	2
APT 108	Stationary Equipment	2
APT 202	Federally Mandated Training	3
APT 204	Safety Skills Training	1
APT 251	Application of Process Operations	2-3
or APT 291	Special Problems in Applied Process Technologies	
EES 101	Basic Electronics	2
Subtotal		29-32
General Education and Technical Core Subtotal		48-51

*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Chemical/Refinery Operator Track

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 410301701

Course	Title	Credits
General Education and Technical Core Subtotal		48-51
APT 142	Instrumentation	4
APT 144	Process Operations	4
APT 146	Process Applications	2
APT 148	Process Operation Safety	2
<b>Total Credits</b>		<b>60-63</b>

## Lineman Technology Track

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 410301703

Course	Title	Credits
General Education and Technical Core Subtotal		48-51
APT 158	Lineman Technology I	3
APT 159	Lineman Technology I Lab	4
EET 150	Transformers	2
EET 151	Transformers Lab	1
APT 258	Lineman Technology II	3
APT 259	Lineman Technology II Lab	4
<b>Total Credits</b>		<b>65-68</b>

## Power Plant Operator Track

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 410301702

Course	Title	Credits
General Education and Technical Core Subtotal		48-51
APT 142	Instrumentation	4
APT 154	Power Plant Practice	6
APT 156	Power Plant Protection	2
<b>Total Credits</b>		<b>60-63</b>

## Electives (not required)

Course	Title	Credits
APT 299	Cooperative Education Program	
COE 199	Cooperative Education: (Topic)	
QMS 101	Introduction to Quality Systems	
EX 196	Experiential Education	

## Basic Lineman - Certificate

**Offered at:** Ashland Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 4103013059

Course	Title	Credits
APT 158	Lineman Technology I <sup>1</sup>	3
APT 159	Lineman Technology I Lab	4
CPR 100	CPR for Healthcare Professionals	1

SFA 101	OSHA, Health, & Environmental Safety	3
TRU 100	Truck Driving	6
<b>Total Credits</b>		<b>17</b>

<sup>1</sup> Consent of instructor to bypass course prerequisite for APT 158 Lineman Technology I (3 credit hours) will always be granted for this certificate program.

## Chemical/Refinery Operator - Certificate

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 4103013039

Course	Title	Credits
SFA 101	OSHA, Health, & Environmental Safety	3
COM 252	Introduction to Interpersonal Communication	3
Select one of the following two options:		4
CHE 130	Introductory General and Biological Chemistry	
CHE 140 & CHE 145	Introductory General Chemistry and Introductory General Chemistry Laboratory	
APT 102	Process Fundamentals	4
APT 104	Rotating and Reciprocating Equipment	3
APT 108	Stationary Equipment	2
APT 142	Instrumentation	4
APT 144	Process Operations	4
APT 146	Process Applications	2
EES 101	Basic Electronics	2
<b>Total Credits</b>		<b>31</b>

## Industrial Worker - Certificate

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 1507013019

Course	Title	Credits
SFA 101	OSHA, Health, & Environmental Safety	3
<b>Total Credits</b>		<b>3</b>

## Lineman - Certificate

**Offered at:** Ashland Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 4103013049

Course	Title	Credits
APT 158	Lineman Technology I	3
APT 159	Lineman Technology I Lab	4
EET 150	Transformers	2
EET 151	Transformers Lab	1

APT 258	Lineman Technology II	3
APT 259	Lineman Technology II Lab	4
EES 101	Basic Electronics	2
TRU 100	Truck Driving	6
<b>Total Credits</b>		<b>25</b>

## Power Plant Operator - Certificate

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 4103013029

Course	Title	Credits
SFA 101	OSHA, Health, & Environmental Safety	3
COM 252	Introduction to Interpersonal Communication	3
Select one of the following two options:		4
CHE 130	Introductory General and Biological Chemistry	
CHE 140 & CHE 145	Introductory General Chemistry and Introductory General Chemistry Laboratory	
APT 102	Process Fundamentals	4
APT 104	Rotating and Reciprocating Equipment	3
APT 108	Stationary Equipment	2
APT 142	Instrumentation	4
APT 154	Power Plant Practice	6
APT 156	Power Plant Protection	2
EES 101	Basic Electronics	2
<b>Total Credits</b>		<b>33</b>

## Apprenticeship Studies

This program is designed to complement specialized study in a national or state approved apprentice curriculum (i.e. 2000 hours per year on the job in a supervised work environment and 144 hours per year of related classroom instruction). Prerequisite: Participation in or completion of national/state certified apprenticeship program.

## Degrees

- Apprenticeship Studies - AAS (p. 120)

## Apprenticeship Studies - AAS

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Jefferson Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 3000007019

Course	Title	Credits
<b>Required</b>		
	Quantitative Reasoning	3
	Heritage/Humanities	3
	Social/Behavioral Sciences	3
ENG 101	Writing I	3
	Oral Communications	3
Select one of the following two options:		3-4

PHY 171	Applied Physics
Other Natural Sciences course with consent of program Coordinator	
Subtotal	18-19
<b>Technical Core</b>	
Digital Literacy Course or demonstrated competency <sup>2</sup>	0-3
Apprenticeship Credit <sup>1</sup>	42
<b>Total Credits</b>	<b>60-64</b>

<sup>1</sup> Apprenticeship credit requirement can be met by a combination of apprenticeship credit (APS 201 Apprenticeship Studies (10-40 credit hours) and other technical courses as approved by the program coordinator.

<sup>2</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Architectural Technology

The Architectural Technology program provides instruction in the concepts and skills required for careers in architectural and related professions involved in designing for the built environment. At the core of the curriculum are a series of architectural studios where students prepare construction documents. The series begins with a study of residential construction and culminates with commercial. Emphasis is placed on quality graphic communication, the development of design skills and a thorough understanding of a variety of construction types. Complementing the studio sequence are courses designed to provide instruction in building materials, structures, mechanical/electrical systems, professional practices, and architectural theory and history. Electives in the program allow students to customize their education to fit their interests. Given the wide range of topics covered in the curriculum, graduates are prepared to find employment in architectural and related professional offices including positions in construction estimating, civil engineering, structural engineering, mechanical/electrical engineering, construction management, computer-aided drafting, building code enforcement, specification writing, urban planning, historic preservation, contracting, sub-contracting, and building material sales and marketing.

In addition to the AAS degree, a diploma and certificate in a specialized area are offered:

The Residential Design diploma and the Residential Designer certificate provide the concepts and skills needed to create and produce residential design projects and can be obtained in a shorter time frame than the AAS degree.

## Degrees

- Architectural Technology - AAS (p. 121)

## Diplomas

- Residential Design - Diploma (p. 122)

## Certificates

- Residential Designer - Certificate (p. 122)

## Architectural Technology - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1513037019

### Curriculum Effective Spring Semester

Course	Title	Credits
ENG 101	Writing I	3
Heritage/Humanities Course		3
Quantitative Reasoning Course (Any credit bearing MAT class starting with MAT 116 and higher)		3
Natural Sciences Course		3
Social/Behavioral Sciences Course		3
Digital Literacy course or demonstrated competency		0-3
ACH 100	Construction Documents I	3
ACH 110	Survey of the Architectural Profession	1
ACH 120	Theory and History of Architecture I	3
ACH 150	Construction Documents II	3
ACH 160	Building Materials and Construction I	3
ACH 161	Building Materials and Construction II	3
ACH 170	Theory and History of Architecture II	3
ACH 175	Introduction to Systems	3
ACH 195	Computer Aided Drafting I	3
ACH 200	Construction Documents III	3
ACH 225	Structures	3
ACH 250	Construction Documents IV	3
ACH 260	Office Practice	3
ACH 275	Mechanical and Electrical Systems	3
Technical Courses (see list below)		10
<b>Total Credits</b>		<b>65-68</b>

## Technical Courses

Course	Title	Credits
ACH 180	Selected Topics in Architectural Technology (Topic)	1-3
ACH 194	Visual Composition	3
ACH 198	Practicum in Architectural Technology	1-3
ACH 280	Revit/Building Information Modeling	2
ACH 290	Building Codes I	3
ACH 291	Construction Management	3
ACH 292	Building Codes II	3
ACH 293	Presentation Techniques	3
ACH 294	Specification Writing	3
ACH 295	Computer Aided Drafting II	3
ACH 297	Estimating Techniques	3
ACH 298	Computer 3D Modeling	3
COE 199	Cooperative Education: (Topic)	1-3

## Additional Suggested General Education Courses (Not Required)

Course	Title	Credits
ENG 102	Writing II	3
Oral Communication Course		3

# Residential Design - Diploma

This program is not currently offered at a KCTCS College.

Program Plan Number: 1513034019

## Curriculum Effective Spring Semester

Course	Title	Credits
<i>Select 3 credit hours from each of the following two areas:</i>		6
<i>Area I</i>		
ENG 101	Writing I	
Heritage/Humanities		
<i>Area II</i>		
Quantitative Reasoning Course <sup>1</sup>		
Natural Science Course		
Social and Behavioral Course		
Subtotal		6
Digital Literacy Course or demonstrated competency		0-3
ACH 100	Construction Documents I	3
ACH 110	Survey of the Architectural Profession	1
ACH 120	Theory and History of Architecture I	3
ACH 150	Construction Documents II	3
ACH 160	Building Materials and Construction I	3
ACH 161	Building Materials and Construction II	3
ACH 170	Theory and History of Architecture II	3
ACH 175	Introduction to Systems	3
ACH 195	Computer Aided Drafting I	3
Technical Elective <sup>2</sup>		5
<b>Total Credits</b>		<b>36-39</b>

<sup>1</sup> Any credit bearing MAT class starting with MAT 116 and higher.

<sup>2</sup> Hours sufficient to achieve the minimum 36 total, required for diploma. See list below

## Technical Courses

Course	Title	Credits
ACH 180	Selected Topics in Architectural Technology (Topic)	1-3
ACH 194	Visual Composition	3
ACH 198	Practicum in Architectural Technology	1-3
ACH 280	Revit/Building Information Modeling	2
ACH 290	Building Codes I	3
ACH 291	Construction Management	3
ACH 292	Building Codes II	3
ACH 293	Presentation Techniques	3
ACH 294	Specification Writing	3
ACH 295	Computer Aided Drafting II	3
ACH 297	Estimating Techniques	3
ACH 298	Computer 3D Modeling	3
COE 199	Cooperative Education: Architectural Technology	1-3

# Residential Designer - Certificate

This program is not currently offered at a KCTCS College.

Program Plan Number: 1513033010

## Curriculum Effective Spring Semester

Course	Title	Credits
ACH 100	Construction Documents I	3
ACH 150	Construction Documents II	3
ACH 160	Building Materials and Construction I	3
ACH 161	Building Materials and Construction II	3
ACH 175	Introduction to Systems	3
ACH 195	Computer Aided Drafting I	3
<b>Total Credits</b>		<b>18</b>

# Auto Body/Collision Repair Technology

From repairing small dents to rebuilding the bodies of wrecked or damaged vehicles, this program maintains the current commercial standards. Students are taught the types of materials used in filler compounds, the colors and chemical make-up of paints used to refinish, welding and cutting procedures, design and installation of trim, cost estimating and preparation for finish work. All are skills applied in actual jobs performed in shop assignments.

Progression in the Auto Body/Collision Repair Technology program is contingent upon achievement of a grade of "C" (2.0) or higher in each course and maintenance of a 2.0 cumulative grade point average.

## Diplomas

- Collision Repair Technician - Diploma (p. 122)

## Certificates

- Automotive Painter - Certificate (p. 123)
- Automotive Painter Helper - Certificate (p. 123)
- Collision Repair Helper - Certificate (p. 123)
- Collision Repairer - Certificate (p. 123)

# Collision Repair Technician - Diploma

**Offered at:** Big Sandy Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

Program Plan Number: 4706034019

Progression in the Auto Body/Collision Repair Technology program is contingent upon achievement of a grade of "C" (2.0) or higher in each course and maintenance of a 2.0 cumulative grade point average.

Course	Title	Credits
<b>General Education Courses</b>		
<i>Area I</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		

## Area 2

Select one of the following three options:	3
Social/Behavioral Sciences	
Natural Sciences	
Quantitative Reasoning	
Subtotal	6
<b>Technical Courses</b>	
Digital Literacy course <b>or</b> demonstrated competency	0-3
CRT 100 Introduction to Collision Repair	2
CRT 130 Non-Structural Analysis and Damage Repair	6
CRT 131 Non-Structural Analysis and Damage Repair Lab	6
CRT 150 Painting and Refinishing	6
CRT 151 Painting and Refinishing Lab	6
CRT 230 Structural Analysis and Damage Repair	6
CRT 231 Structural Analysis and Damage Repair Lab	6
CRT 250 Mechanical and Electrical Components	6
CRT 251 Mechanical and Electrical Components Lab	6
CRT 198 Practicum	1
or CRT 199 Cooperative Education	
Subtotal	51-54
<b>Total Credits</b>	<b>57-60</b>

## Recommended Program Electives

Course	Title	Credits
CRT 298	Advanced Practicum	2
or CRT 299	Advanced Cooperative Education	

## Automotive Painter - Certificate

**Offered at:** Big Sandy Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706033119

Course	Title	Credits
<b>Technical Courses</b>		
CRT 100	Introduction to Collision Repair	2
CRT 130	Non-Structural Analysis and Damage Repair	6
CRT 131	Non-Structural Analysis and Damage Repair Lab	6
CRT 150	Painting and Refinishing	6
CRT 151	Painting and Refinishing Lab	6
CRT 230	Structural Analysis and Damage Repair	6
CRT 231	Structural Analysis and Damage Repair Lab	6
<b>Total Credits</b>		<b>38</b>

## Automotive Painter Helper - Certificate

**Offered at:** Big Sandy Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706033029

Course	Title	Credits
<b>Required</b>		
CRT 100	Introduction to Collision Repair	2
CRT 150	Painting and Refinishing	6
CRT 151	Painting and Refinishing Lab	6
<b>Total Credits</b>		<b>14</b>

## Collision Repair Helper - Certificate

**Offered at:** Big Sandy Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706033059

Course	Title	Credits
<b>Required</b>		
CRT 100	Introduction to Collision Repair	2
Electives <sup>1</sup>		12
<b>Total Credits</b>		<b>14</b>

<sup>1</sup> Collision Repair Courses with the exception of CRT 150 Painting and Refinishing (6 credit hours) and CRT 151 Painting and Refinishing Lab (6 credit hours)

## Collision Repairer - Certificate

**Offered at:** Big Sandy Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706033109

Course	Title	Credits
CRT 100	Introduction to Collision Repair	2
CRT 130	Non-Structural Analysis and Damage Repair	6
CRT 131	Non-Structural Analysis and Damage Repair Lab	6
CRT 150	Painting and Refinishing	6
CRT 151	Painting and Refinishing Lab	6
CRT 230	Structural Analysis and Damage Repair	6
CRT 231	Structural Analysis and Damage Repair Lab	6
CRT 250	Mechanical and Electrical Components	6
CRT 251	Mechanical and Electrical Components Lab	6
<b>Total Credits</b>		<b>50</b>

## Automotive Technology

Instruction in systems such as engines, fuel, on-board computers, transmissions, steering, suspension, and brakes is the basis for this program.

The Automotive Technician option provides knowledge of the various systems used to develop skills in troubleshooting, performing preventative maintenance, servicing and repairing automobiles. The program, which is designed to be completed in two years, prepares



graduates for entry-level service technician jobs in the auto repair industry. The student may be provided a work-study experience alternating between periods of work on-site and work in a classroom-laboratory setting.

The Parts/Service Writer option provides knowledge of the various systems and components and how they relate. This knowledge enables the student to more accurately interpret their customers' automotive complaints, identify and sell automotive parts, and provide efficient customer service within the automotive service and repair industry. The student may take the ASE exams in these areas when they have completed the requirements for these tests.

The Hybrid and Electric Vehicle Technician certificate complements the Associate in Applied Science degree and is designed for students to increase and develop the basic knowledge and skills necessary for diagnosing and repairing hybrid and electric vehicles. The additional credential is designed for students who wish to enhance their knowledge of hybrid and electric vehicles. This credential will make the student more employable in the automotive repair field.

Note: Hours Exception (69-72 for the A.A.S. and 61-64 for the Diploma) approved by the KCTCS Board of Regents in March 2011.

## Degrees

- Automotive Technology - AAS (p. 124)
  - Automotive Parts/Service Writer Track (p. 124)
  - Automotive Technician Track (p. 124)

## Diplomas

- Automotive Parts/Service Writer - Diploma (p. 125)
- Automotive Technician - Diploma (p. 125)

## Certificates

- Automatic Transmission/Transaxle Technician - Certificate (p. 126)
- Automotive Air Conditioning Mechanic - Certificate (p. 126)
- Automotive Electrician - Certificate (p. 126)
- Brake Repairer - Certificate (p. 126)
- Engine Repairer - Certificate (p. 126)
- Front End Mechanic - Certificate (p. 126)
- Hybrid and Electric Vehicle Technician - Certificate (p. 127)
- Manual Transmission/Drive Train Technician - Certificate (p. 127)
- Tune-up Mechanic - Certificate (p. 127)

## Automotive Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706047019

Course	Title	Credits
<b>General Education</b>		
Quantitative Reasoning		3

Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Written Communication		3
Subtotal		15
<b>Technical Core</b>		
Digital Literacy course or demonstrated competency		0-3
ADX 120	Basic Automotive Electricity	3
ADX 150	Engine Repair	3
ADX 170	Climate Control	3
ADX 260	Electrical Systems	3
AUT 110	Brake Systems	3
AUT 130	Manual Drive Train and Axles	3
AUT 140	Basic Fuel and Ignition Systems	3
AUT 142	Emission Systems	3
AUT 160	Suspension and Steering	3
AUT 180	Automatic Transmission/Transaxle	3
AUT 240	Computer Control Systems and Diagnosis	3
Subtotal		33-36
General Education and Technical Core Subtotal		48-51

*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Automotive Parts/Service Writer Track

**Offered at:** Gateway Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 470604702

Course	Title	Credits
General Education and Technical Core Subtotal		48-51
ISX 100	Industrial Safety	3
TQX 110		3
B&E 100		1
ACT 101	Fundamentals of Accounting I	3
TEC 100 or CMS 152		3
<b>Total Credits</b>		<b>61-64</b>

## Automotive Technician Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 470604701

Course	Title	Credits
General Education and Technical Core Subtotal		48-51
ADX 121	Basic Automotive Electricity Lab	2
ADX 151	Engine Repair Lab	2

ADX 171	Climate Control Lab	1
ADX 261	Electrical Systems Lab	2
AUT 111	Brake Systems Lab	2
AUT 131	Manual Drive Train and Axles Lab	2
AUT 141	Basic Fuel and Ignition Systems Lab	2
AUT 143	Emission Systems Lab	2
AUT 161	Suspension and Steering Lab	2
AUT 181	Automatic Transmission/Transaxle Lab	2
AUT 241	Computer Control Systems and Diagnosis Lab	2
<b>Total Credits</b>		<b>69-72</b>

## Automotive Parts/Service Writer - Diploma

**Offered at:** Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4706044029

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
<i>Area 2</i>		
Select one of the following three options:		3
	Social/Behavioral Sciences	
	Natural Sciences	
	Quantitative Reasoning	
<b>Subtotal</b>		<b>6</b>
<b>Technical or Support Courses</b>		
Digital Literacy course <b>or</b> demonstrated competency		0-3
ADX 120	Basic Automotive Electricity	3
ADX 150	Engine Repair	3
ADX 170	Climate Control	3
ADX 260	Electrical Systems	3
AUT 110	Brake Systems	3
AUT 130	Manual Drive Train and Axles	3
AUT 140	Basic Fuel and Ignition Systems	3
AUT 142	Emission Systems	3
AUT 160	Suspension and Steering	3
AUT 180	Automatic Transmission/Transaxle	3
AUT 240	Computer Control Systems and Diagnosis	3
ISX 100	Industrial Safety	3
TQX 110		3
B&E 100		1
TEC 100		3
	or CMS 152	
ACT 101	Fundamentals of Accounting I	3
Any approved work experience component		1

<b>Subtotal</b>	<b>47-50</b>
<b>Total Credits</b>	<b>53-56</b>

## Automotive Technician - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706044019

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
<i>Area 2</i>		
Select one of the following three options:		3
	Social/Behavioral Sciences	
	Natural Sciences	
	Quantitative Reasoning	
<b>Subtotal</b>		<b>6</b>
<b>Technical Core</b>		
Digital Literacy <b>or</b> demonstrated competency		0-3
ADX 120	Basic Automotive Electricity	3
ADX 121	Basic Automotive Electricity Lab	2
ADX 150	Engine Repair	3
ADX 151	Engine Repair Lab	2
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
ADX 260	Electrical Systems	3
ADX 261	Electrical Systems Lab	2
AUT 110	Brake Systems	3
AUT 111	Brake Systems Lab	2
AUT 130	Manual Drive Train and Axles	3
AUT 131	Manual Drive Train and Axles Lab	2
AUT 140	Basic Fuel and Ignition Systems	3
AUT 141	Basic Fuel and Ignition Systems Lab	2
AUT 142	Emission Systems	3
AUT 143	Emission Systems Lab	2
AUT 160	Suspension and Steering	3
AUT 161	Suspension and Steering Lab	2
AUT 180	Automatic Transmission/Transaxle	3
AUT 181	Automatic Transmission/Transaxle Lab	2
AUT 240	Computer Control Systems and Diagnosis	3
AUT 241	Computer Control Systems and Diagnosis Lab	2
Any approved work experience component		1

Subtotal	55-58
<b>Total Credits</b>	<b>61-64</b>

## Automatic Transmission/Transaxle Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043079

Course	Title	Credits
AUT 180	Automatic Transmission/Transaxle	3
AUT 181	Automatic Transmission/Transaxle Lab	2
<b>Total Credits</b>		<b>5</b>

## Automotive Air Conditioning Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043019

Course	Title	Credits
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
<b>Total Credits</b>		<b>4</b>

## Automotive Electrician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043039

Course	Title	Credits
ADX 120	Basic Automotive Electricity	3
ADX 121	Basic Automotive Electricity Lab	2
ADX 260	Electrical Systems	3
ADX 261	Electrical Systems Lab	2
<b>Total Credits</b>		<b>10</b>

## Brake Repairer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043069

Course	Title	Credits
AUT 110	Brake Systems	3
AUT 111	Brake Systems Lab	2
<b>Total Credits</b>		<b>5</b>

## Engine Repairer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043089

Course	Title	Credits
ADX 150	Engine Repair	3
ADX 151	Engine Repair Lab	2
<b>Total Credits</b>		<b>5</b>

## Front End Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043099

Course	Title	Credits
AUT 160	Suspension and Steering	3
AUT 161	Suspension and Steering Lab	2
<b>Total Credits</b>		<b>5</b>

## Hybrid and Electric Vehicle Technician - Certificate

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043139

Course	Title	Credits
AUT 140	Basic Fuel and Ignition Systems	3
AUT 141	Basic Fuel and Ignition Systems Lab	2
AUT 142	Emission Systems	3
AUT 143	Emission Systems Lab	2
ADX 150	Engine Repair	3
ADX 151	Engine Repair Lab	2
ADX 120	Basic Automotive Electricity	3
ADX 121	Basic Automotive Electricity Lab	2
ADX 260	Electrical Systems	3
ADX 261	Electrical Systems Lab	2
AUT 275	Hybrid and Electric Vehicle Technology	3
AUT 276	Hybrid and Electric Vehicle Technology Lab	2
<b>Total Credits</b>		<b>30</b>

## Manual Transmission/Drive Train Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043059

Course	Title	Credits
AUT 130	Manual Drive Train and Axles	3
AUT 131	Manual Drive Train and Axles Lab	2
<b>Total Credits</b>		<b>5</b>

## Tune-up Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical

College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706043109

Course	Title	Credits
ADX 120	Basic Automotive Electricity	3
ADX 121	Basic Automotive Electricity Lab	2
ADX 260	Electrical Systems	3
ADX 261	Electrical Systems Lab	2
AUT 140	Basic Fuel and Ignition Systems	3
AUT 141	Basic Fuel and Ignition Systems Lab	2
AUT 142	Emission Systems	3
AUT 143	Emission Systems Lab	2
AUT 240	Computer Control Systems and Diagnosis	3
AUT 241	Computer Control Systems and Diagnosis Lab	2
<b>Total Credits</b>		<b>25</b>

## Aviation Maintenance Technology

Expertise in the inspection, repair, service and overhaul of aircraft and engines is the goal of this program certified by the Federal Aviation Agency (FAA). Interpreting specifications from service and technical manuals, using testing procedures and equipment, diagnosing problems and making necessary repairs are the skills taught in aircraft maintenance. To work in the aircraft industry, the FAA must certify students completing this program.

Students enrolled in the Aviation Maintenance Technology program must achieve a minimum grade of "C" in each FAA accredited course.

Note: Hours Exception (75-76 for the A.A.S. and 66-67 for the diploma) approved by the KCTCS Board of Regents in June 2011.

## Degrees

- Aviation Maintenance Technology - AAS (p. 127)

## Diplomas

- Airframe and Power Plant Maintenance Technician - Diploma (p. 128)

## Certificates

- Airframe Maintenance Technician - Certificate (p. 128)
- Introduction to Aviation Electronics - Certificate (p. 129)
- Power Plant Maintenance Technician - Certificate (p. 129)

## Aviation Maintenance Technology - AAS

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College

**Program Plan Number:** 4706087029

Students enrolled in the Aviation Maintenance Technology program must achieve a minimum grade of “C” in each FAA accredited course.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
	Quantitative Reasoning	3
	Natural Sciences	3
	Heritage/Humanities	3
	Social/Behavioral Sciences	3
	Subtotal	15
ATE 100	Aviation Math	1
ATE 102	Introduction to Aircraft Maintenance I	3
ATE 104	Introduction to Aircraft Maintenance II	3
ATE 106	Introduction to Aircraft Maintenance III	3
ATE 108	Introduction to Aircraft Maintenance IV	3
ATE 202	Aircraft Structures I	3
ATE 204	Aircraft Structures II	3
ATE 206	Aircraft Structures III	3
ATE 208	Aircraft Structures IV	3
ATE 222	Aircraft Systems I	3
ATE 224	Aircraft Systems II	3
ATE 226	Aircraft Systems III	3
ATE 228	Aircraft Systems IV	3
ATE 242	Aircraft Powerplants I	3
ATE 244	Aircraft Powerplants II	3
ATE 246	Aircraft Powerplants III	3
ATE 248	Aircraft Powerplants IV	3
ATE 252	Aircraft Powerplant Systems I	3
ATE 254	Aircraft Powerplant Systems II	3
ATE 256	Aircraft Powerplant Systems III	3
ATE 258	Aircraft Powerplant Systems IV	3
	<b>Total Credits</b>	<b>76</b>

**Note:** Digital literacy must be demonstrated either by competency exam or by completing a Digital literacy course.

# Airframe and Power Plant Maintenance Technician - Diploma

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College

**Program Plan Number:** 4706084049

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
	Select one of the following three options:	3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	

*Area 2*

Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
	Subtotal	6
ATE 100	Aviation Math	1
ATE 102	Introduction to Aircraft Maintenance I	3
ATE 104	Introduction to Aircraft Maintenance II	3
ATE 106	Introduction to Aircraft Maintenance III	3
ATE 108	Introduction to Aircraft Maintenance IV	3
ATE 202	Aircraft Structures I	3
ATE 204	Aircraft Structures II	3
ATE 206	Aircraft Structures III	3
ATE 208	Aircraft Structures IV	3
ATE 222	Aircraft Systems I	3
ATE 224	Aircraft Systems II	3
ATE 226	Aircraft Systems III	3
ATE 228	Aircraft Systems IV	3
ATE 242	Aircraft Powerplants I	3
ATE 244	Aircraft Powerplants II	3
ATE 246	Aircraft Powerplants III	3
ATE 248	Aircraft Powerplants IV	3
ATE 252	Aircraft Powerplant Systems I	3
ATE 254	Aircraft Powerplant Systems II	3
ATE 256	Aircraft Powerplant Systems III	3
ATE 258	Aircraft Powerplant Systems IV	3
	<b>Total Credits</b>	<b>67</b>

**Note:** Computer/Digital literacy must be demonstrated either by competency exam or by completing a computer/digital literacy course.

# Airframe Maintenance Technician - Certificate

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College

**Program Plan Number:** 4706083069

Course	Title	Credits
ATE 100	Aviation Math	1
ATE 102	Introduction to Aircraft Maintenance I	3
ATE 104	Introduction to Aircraft Maintenance II	3
ATE 106	Introduction to Aircraft Maintenance III	3
ATE 108	Introduction to Aircraft Maintenance IV	3
ATE 202	Aircraft Structures I	3
ATE 204	Aircraft Structures II	3
ATE 206	Aircraft Structures III	3
ATE 208	Aircraft Structures IV	3
ATE 222	Aircraft Systems I	3
ATE 224	Aircraft Systems II	3
ATE 226	Aircraft Systems III	3



ATE 228	Aircraft Systems IV	3
<b>Total Credits</b>		<b>37</b>

## Introduction to Aviation Electronics - Certificate

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Somerset Community College

**Program Plan Number:** 4706083099

Course	Title	Credits
ATE 292	Introduction To Aviation Electronics	3
ATE 293	GROL+Radar Exam Prep	3
<b>Total Credits</b>		<b>6</b>

## Power Plant Maintenance Technician - Certificate

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College

**Program Plan Number:** 4706083079

Course	Title	Credits
ATE 100	Aviation Math	1
ATE 102	Introduction to Aircraft Maintenance I	3
ATE 104	Introduction to Aircraft Maintenance II	3
ATE 106	Introduction to Aircraft Maintenance III	3
ATE 108	Introduction to Aircraft Maintenance IV	3
ATE 242	Aircraft Powerplants I	3
ATE 244	Aircraft Powerplants II	3
ATE 246	Aircraft Powerplants III	3
ATE 248	Aircraft Powerplants IV	3
ATE 252	Aircraft Powerplant Systems I	3
ATE 254	Aircraft Powerplant Systems II	3
ATE 256	Aircraft Powerplant Systems III	3
ATE 258	Aircraft Powerplant Systems IV	3
<b>Total Credits</b>		<b>37</b>

## Biomedical Technology Systems

The Biomedical Technology Systems (BTS) program prepares the adult learner to repair, maintain, test, inspect, calibrate, and manage a wide variety of medical devices, equipment, and systems employed in various healthcare sectors. The learner will gain a holistic perspective of the life-cycle duties and skills needed to assure that medical devices meet safety and performance expectations. The program addresses both general and specialized medical technologies along with how these technologies are interfaced with health IT networks. Upon completion of the program, the graduate will be prepared for immediate employment as an entry-level biomedical equipment technician professional and may pursue employment with a number of employers including, but not limited to: hospitals, clinics, home medical equipment companies, dialysis centers, third-party medical equipment service providers, and medical equipment manufacturers.

The BTS program is uniquely designed with the long distance and/or working adult in mind. The curriculum courses are offered online and all BTS technical courses which have associated lab activities require the student to make only one visit to Madisonville Community College each week during the fall and spring semesters. As an alternative, students may take two, short-term summer sessions at Madisonville Community College which encompasses all the lab activities presented in the BTS courses. Two such sessions are required, with one session taken during one summer term and the other session taken during the following summer term, in which each onsite session includes labs from six different BTS courses. Only one session is offered each summer.

## Degrees

- Biomedical Technology Systems - AAS (p. 129)

## Certificates

- Foundations in Biomedical Technology Networking Systems - Certificate (p. 130)

## Biomedical Technology Systems - AAS

**Offered at:** Madisonville Community College

**Program Plan Number:** 1504017029

Course	Title	Credits
<b>General Education Courses</b>		
ENG 101	Writing I	3
MAT 126	Technical Algebra and Trigonometry	3
or MAT 150	College Algebra	
PHY 171	Applied Physics	4
Social/Behavioral Sciences		3
Heritage/Humanities		3
Subtotal		16
<b>Technical Support Courses</b>		
AIT 1001	Basic Electrical Knowledge	2
AIT 1101	Electrical Power Distribution	1
BIO 135	Basic Anatomy and Physiology with Laboratory	4
CIT 105	Introduction to Computers (fulfills digital literacy requirement)	3
CIT 111	Computer Hardware and Software	4
CIT 160	Intro to Networking Concepts	4
CIT 180	Security Fundamentals	3
Subtotal		21
<b>Technical Courses</b>		
BTS 100	Biomedical Technology Systems: A Career Perspective	1
BTS 110	Environmental Risks and Precautionary Measures for the BTS Service Professional	1
BTS 120	Essentials of Biomedical Electronics I	2
BTS 125	Essentials of Biomedical Electronics II	2
BTS 130	Medical Equipment Management I	2
BTS 140	Science Principles Employed in Medical Technologies	1
BTS 200	Patient Care Support and Management Systems	2

BTS 210	Diagnostic Medical Equipment and Non-Radiographic Imaging Modalities	2
BTS 220	Laboratory Devices, Instruments, and Analyzers	2
BTS 230	Medical Equipment Management II	2
BTS 250	Introduction to Medical-Based IT Networks and Standards	2
BTS 260	Radiographic Imaging Modalities	2
BTS 270	Therapeutic Equipment Modalities I	2
BTS 275	Therapeutic Equipment Modalities II	2
BTS 280	General Care Monitoring and Instrumentation	2
BTS 285	Critical Care Monitoring and Instrumentation	2
BTS 290	Clinical Experience in Biomedical Technology Systems	2
Subtotal		31
<b>Total Credits</b>		<b>68</b>

## Foundations in Biomedical Technology Networking Systems - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1504013029

Course	Title	Credits
CIT 105	Introduction to Computers (fulfills digital literacy requirement)	3
CIT 111	Computer Hardware and Software	4
CIT 160	Intro to Networking Concepts	4
CIT 180	Security Fundamentals	3
BTS 250	Introduction to Medical-Based IT Networks and Standards	2
<b>Total Credits</b>		<b>16</b>

## Biotechnology Laboratory Technician

The Biotechnology Laboratory Technician AAS program provides the basic knowledge and laboratory skills needed to prepare for entry-level jobs in university, government, pharmaceutical, or industrial biotechnology laboratories. Graduates of the program will be able to seek employment in biotechnology laboratories such as biomanufacturing, quality control, quality assurance, research and development, and regulatory bioscience. The program has been designed to develop skills in basic analysis of biological molecules (DNA and proteins), use of bioreactors, recombinant DNA technology, generation of cell cultures, immunological method applications, regulatory compliance (GMPs and GLPs), accurate documentation, and laboratory safety skills. Some courses are dual credit and college credit can be earned while students are enrolled in secondary school.

The Biotechnology Laboratory Assistant certificate provides basic training and personal support to prepare students for certificates and degrees in Biotechnology or entry level employment in bioscience laboratories. The program is intended for students with little or no background in science, although the program is open to all students. Students enroll in three integrated courses as a cohort, BTN 100 Contextual Science with Laboratory (4 credit hours), BTN 103 Contextual

Laboratory Language (3 credit hours), and BTN 104 Contextual Laboratory Math (3 credit hours).

The Basic Biotechnician certificate introduces hands-on laboratory training needed for entry-level employment in a biotechnological laboratory.

The Advanced Biotechnician certificate provides practical laboratory skills to supplement theoretical knowledge gained from previous coursework, to improve employability in the biotechnology industry.

The Bioinformatics certificate introduces interdisciplinary curriculum to gain skills required to seek employment at an entry level in performing data acquisition, management, and analysis in laboratory environments. The certificate program can also benefit working professionals seeking to advance or change their careers. Students will learn basic programming, concepts of molecular biology, and use of bioinformatics applications and resources. Emphasis will be placed on the skills required to become creative and flexible team members and leaders who can work with others in the dynamic interdisciplinary team environment found in today's biotechnology companies. The Bioinformatics certificate is a joint credential within the Biotechnology Laboratory Technician and Computer Information Technologies areas.

The Environmental Biotechnician certificate provides hands-on training using an interdisciplinary approach of integrating applied biotechnology to study the natural environment. Green technologies, sustainability, biodegradation, and bioremediation will be explored. Students will collect water, air, and soil samples and conduct experiments related to the detection and monitoring of environmental pollutants. The use of biotechnology laboratory methods, system's biology, and bioinformatics will be emphasized. Students who complete the curriculum satisfactorily are qualified for entry level positions in laboratories or field research companies, including federal, state, or local agencies, university or privately owned biotechnology research labs, or nature resource management organizations. The Environmental Biotechnician Certificate requires successful completion of 21 hours of coursework, which may be earned in 2 semesters, provided all the prerequisites have been met for the required coursework. This is a joint certificate in the Biotechnology Laboratory Technician and Environmental Science Technician programs.

## Degrees

- Biotechnology Laboratory Technician - AAS (p. 130)

## Certificates

- Advanced Biotechnician - Certificate (p. 131)
- Basic Biotechnician - Certificate (p. 131)
- Bioinformatics - Certificate (p. 132)
- Biotechnology Laboratory Assistant - Certificate (p. 132)
- Environmental Biotechnician - Certificate (p. 132)

## Biotechnology Laboratory Technician - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4101017029

Course	Title	Credits
<b>Required General Education Courses</b>		
Heritage/Humanities		3
Social/Behavioral Sciences		3
Natural Sciences with Laboratory <sup>1</sup>		4-5
Quantitative Reasoning <sup>2</sup>		3
Written Communication		3
Subtotal		16-17
<b>Required Technical Core Courses</b>		
BTN 101	Introduction to Biotechnology	1
BTN 105	Applied Laboratory Calculations for Biotechnology	3
BTN 201	Biotechnology Techniques I	4
BTN 202	Biotechnology Techniques II	4
Digital Literacy Course or demonstrated competency <sup>3</sup>		0-3
Subtotal		12-15
<b>Required Technical Elective Courses</b>		
Select at least 28 credit hours of the following 12 options:		28
BTN 106	Fundamentals of Scientific Communication	
BTN 110	Nucleic Acid Methods	
BTN 115	Biomanufacturing	
BTN 120	Biofuels	
BTN 125	Bioinformatics I	
BTN 126	Bioinformatics II	
BTN 160	Introduction to Agricultural Biotechnology	
BTN 210	Cell Culture and Function	
BTN 220	Immunological Methods	
BTN 225	Protein Bioseparation Methods	
BTN 295	Independent Investigation in Biotechnology <sup>4</sup>	
or BTN 298	Biotechnology Learning Laboratory	
or COE 199	Cooperative Education: (Topic)	
Course approved by the program coordinator		
Subtotal		28
<b>Technical Support Courses</b>		
Select at least 4 credit hours within Natural Sciences and Mathematics, usually courses with prefixes ANA, BIO, BTN, CHE, EST, GLY, MA, MAT, PGY, PHY, STA or any course approved by the program coordinator. BTN courses not used to satisfy Technical Electives may be used to satisfy Technical Support.		4
Subtotal		4
<b>Total Credits</b>		<b>60-64</b>

<sup>1</sup> Science requirement may be satisfied by:

- One semester of college biology with lab, or
- One semester of college chemistry with lab, or
- Course approved by the program coordinator.

<sup>2</sup> Assessment score above the KCTCS transitional course placement level or completion of transitional courses (courses numbered 001-999).

<sup>3</sup> Digital literacy must be demonstrated either by competency exam or by successfully completing a digital literacy course.

<sup>4</sup> Students are strongly encouraged to gain hands-on experience by enrolling in BTN 295 Independent Investigation in Biotechnology (1-3 credit hours), BTN 298 Biotechnology Learning Laboratory (1-8 credit

hours) or COE 199 Cooperative Education: (Topic) (1-8 credit hours), to reinforce technical skills learned in the classroom.

## Advanced Biotechnician - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4101013050

Course	Title	Credits
BTN 101	Introduction to Biotechnology	1
BTN 105	Applied Laboratory Calculations for Biotechnology	3
BTN 201	Biotechnology Techniques I	4
BTN 202	Biotechnology Techniques II	4
Select 15 credits of the following 12 options:		15
BTN 106	Fundamentals of Scientific Communication	
BTN 110	Nucleic Acid Methods	
BTN 115	Biomanufacturing	
BTN 120	Biofuels	
BTN 125	Bioinformatics I	
BTN 126	Bioinformatics II	
BTN 160	Introduction to Agricultural Biotechnology	
BTN 210	Cell Culture and Function	
BTN 220	Immunological Methods	
BTN 225	Protein Bioseparation Methods	
BTN 295	Independent Investigation in Biotechnology <sup>1</sup>	
or BTN 298	Biotechnology Learning Laboratory	
or COE 199	Cooperative Education: (Topic)	
Course approved by the program coordinator		
<b>Total Credits</b>		<b>27</b>

<sup>1</sup> Students are strongly encouraged to gain hands-on experience by enrolling in BTN 295 Independent Investigation in Biotechnology (1-3 credit hours), BTN 298 Biotechnology Learning Laboratory (1-8 credit hours) or COE 199 Cooperative Education: (Topic) (1-8 credit hours), to reinforce technical skills learned in the classroom.

## Prerequisites

- At least one semester of college-level chemistry and college-level biology, with an earned associate's degree or higher.
- Or consent of program coordinator

## Basic Biotechnician - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4101013020

Course	Title	Credits
BTN 101	Introduction to Biotechnology	1
BTN 105	Applied Laboratory Calculations for Biotechnology	3
BTN 201	Biotechnology Techniques I	4
BTN 202	Biotechnology Techniques II	4
Science <sup>1</sup>		4-5
<b>Total Credits</b>		<b>16-17</b>

<sup>1</sup> Science requirement may be satisfied by:

- Completion of the Biotechnology Laboratory Assistant Certificate, or
- Completion of BTN 100 Contextual Science with Laboratory (4 credit hours), BTN 103 Contextual Laboratory Language (3 credit hours), and BTN 104 Contextual Laboratory Math (3 credit hours) or cohort with a "C" or better, or
- One semester of college biology with lab, or
- One semester of college chemistry with lab, or
- Course approved by the program coordinator.

## Bioinformatics - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4101013060

Course	Title	Credits
BTN 101	Introduction to Biotechnology	1
BTN 105	Applied Laboratory Calculations for Biotechnology	3
BTN 125	Bioinformatics I	2
BTN 126	Bioinformatics II	2
BTN 201	Biotechnology Techniques I	4
BTN 202	Biotechnology Techniques II	4
Select one of the following three options:		3
CIT 149	Java I	3
CS 115U	Introduction to Computer Programming	
INF 120U	Elementary Programming	
CIT 170	Database Design Fundamentals	3
or INF 282U	Introduction to Databases	
Select one of the following three options:		3-4
CIT 249	Java II	3
CS 215U	Introduction to Program Design, Abstraction, and Problem Solving	
INF 260U & INF 260LU	Object Oriented Programming I and Object Oriented Programming Laboratory	
Select one of the following three options:		3
CIT 155	Web Page Development	3
IMD 133	Beginning Web Design	
INF 286U	Introduction to Web Development	
<b>Total Credits</b>		<b>28-29</b>

## Biotechnology Laboratory Assistant - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4101013040

Course	Title	Credits
BTN 100	Contextual Science with Laboratory <sup>1</sup>	4
BTN 103	Contextual Laboratory Language <sup>1</sup>	3
BTN 104	Contextual Laboratory Math <sup>1</sup>	3
BTN 101	Introduction to Biotechnology	1

BTN 106	Fundamentals of Scientific Communication	3
Digital Literacy Course		3
<b>Total Credits</b>		<b>17</b>

<sup>1</sup> BTN 100 Contextual Science with Laboratory (4 credit hours), BTN 103 Contextual Laboratory Language (3 credit hours), and BTN 104 Contextual Laboratory Math (3 credit hours) must be taken as a cohort.

## Environmental Biotechnician - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4101013070

Course	Title	Credits
BTN 101	Introduction to Biotechnology	1
BTN 201	Biotechnology Techniques I	4
BTN 202	Biotechnology Techniques II	4
CHE 170	General College Chemistry I	4
CHE 175	General College Chemistry Laboratory I	1
EST 150	Introductory Ecology	4
EST 170	Environmental Sampling Laboratory	2
EST 260	Environmental Analysis Laboratory	2
<b>Total Credits</b>		<b>22</b>

## Broadband Technology

The Broadband Technology program provides training through three distinct tracks –Broadband Technician, Broadband Telecommunications Equipment Installer Track, and Broadband Design and Applications Track. The program includes instruction in telecommunications, outside plant operations, computer networking, communications networks and systems, signals, circuits, fiber optics, and wireless systems and technology.

Progression in the Broadband Technology program is contingent upon achievement of a grade of "C" or higher in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Broadband Technician Track

The track provides course work, competencies and experiences to prepare the students for success as Broadband Technicians. Areas of study as related to this track include HFC (Hybrid Fiber Cable), Fiber Optics Systems, Basic Telephony Installations and Maintenance, Outside Plant Pole Climbing and Construction Safety, and Electrical Construction (specifically Fiber Optic and Data Cable Installations).

## Broadband Telecommunications Equipment Installer Track

This track provides course work, competencies and experiences to prepare the students for success as Broadband Telecommunications Equipment Installers. Areas of study as related to this track include Computer Hardware and Software, Introduction to GIS (Graphical Information Systems), Functions and Operation of PBX Systems, Fiber



Optics Systems Splicing and Maintenance, Basic Telephony Installations and Maintenance, Outside Plant Pole Climbing and Construction Safety.

## Broadband Design and Applications Track

The track provides course work, competencies and experiences to prepare the students for success in Broadband Design and Applications. Areas of study as related to this track include GIS (Graphical Information Systems), Security Systems and Regulations, HFC (Hybrid Fiber Cable), Satellite Dishes, Fiber Optics Systems, NEC (National Electrical Code) outlining the standards for proper installation of communication cables and systems according to the NFPA70 (National Fire Protection Association), and Electrical Construction (specifically Fiber Optic and Data Cable Installations).

## Broadband Basic Installer

The Broadband Basic Installer certificate provides an overview of concepts needed to complete the duties of a broadband technician relating to telecommunications service and installation. The certificate also provides the foundational basic skills and knowledge required to effectively perform the installation and maintenance job duties and functions. Students are introduced to HFC Cables and fiber optic transmissions and cable repair.

## Broadband Support Technician

The Broadband Support Technician certificate provides training on first level support via telephone or field service to minimize interruptions in inside wire for residential/business broadband (DSL/Video) service, Central Office junctions as required for broadband continuity, digital subscriber carriers and associated broadband equipment, Residential Gateways and DSL business class routers, along with the array of wireless home networking equipment. The certificate prepares technicians to follow documented call handling procedures to manage inbound contacts and document relevant information in a Service Management tool, while providing excellent customer service and technical support services.

## Broadband Telecommunications Equipment Installer

The Broadband Telecommunications Equipment Installer certificate introduces the set-up, installation, rearrangement, and/or removing switching and dialing equipment used in telecommunications central offices and end user broadband consumers. Training also includes an introduction to routing broadband information to destination and troubleshooting central problems at the end user customer premises.

## Broadband Cyber Security Technician

The Broadband Cyber Security Technician certificate introduces the setup, configuration, and support of internal and/or external networks. Training includes the development and maintenance of all systems, applications, security, and network configurations. Also included are troubleshooting network performance issues and creating and maintaining a disaster recovery plan. The certificate prepares the technician to recommend upgrades, patches, and new applications and equipment and to provide technical support and guidance to users.

## Broadband Technician Specialist

The Broadband Specialists I (Field Technicians) certificate primarily focus on new installations of cable television and broadband services.

Students learn a variety of duties including installation, changes of service, additional outlet installation, disconnection of service, payment collection, and any special requests customers may have in regard to installation.

## Degrees

- Broadband Technology - AAS (p. 133)
  - Broadband Design and Applications Track (p. 134)
  - Broadband Technician Track (p. 134)
  - Broadband Telecommunications Equipment Installer Track (p. 134)

## Certificates

- Broadband Basic Installer - Certificate (p. 134)
- Broadband Cyber Security Technician - Certificate (p. 134)
- Broadband Support Technician - Certificate (p. 134)
- Broadband Technician Specialist - Certificate (p. 135)
- Broadband Telecommunications Equipment Installer - Certificate (p. 135)

## Broadband Technology - AAS

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 4701037019

Progression in the Broadband Technology program is contingent upon achievement of a grade of "C" or higher in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
MAT 150	College Algebra	3
or MAT 126	Technical Algebra and Trigonometry	
Select one of the following two options:		3-4
PHY 171	Applied Physics	
Other Natural Science with Consent of Program Coordinator		
ENG 101	Writing I	3
Social/Behavioral Science Course		3
Oral Communications Course		3
Heritage/Humanities		3
Subtotal		18-19
<b>Technical Core</b>		
ELT 110	Circuits I	5
ELT 120	Digital I	3
BBT 289	Broadband Technology Capstone	1
Select one of the following two options:		3
CIT 105	Introduction to Computers	
Digital Literacy course		
CIT 111	Computer Hardware and Software	4
CIT 161	Introduction to Networks	4
ISX 100	Industrial Safety	3
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
Subtotal		28



General Education and Technical Core Subtotal	46-47
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>	

Broadband Design and Applications Track

Offered at: Big Sandy Community and Technical College

Program Plan Number: 470103703

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
CIT 125	Intro to Digital Maps	3
BBT 210	Security Systems Applications	3
BBT 101	HFC Cable TV Operations	3
EET 154	Electrical Construction I	2
EET 155	Electrical Construction I Lab	2
EET 252	Electrical Construction II	2
EET 253	Electrical Construction II Lab	2
EET 250	National Electrical Code	4
Total Credits		67-68

Broadband Technician Track

Offered at: Big Sandy Community and Technical College

Program Plan Number: 470103701

Course	Title	Credits
General Education and Technical Core Subtotal		46-47
EET 110	Voice & Data Installer Level I	4
EET 116	Fiber Optics Systems	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 222	Mechanics of Telephony	3
EET 154	Electrical Construction I	2
EET 155	Electrical Construction I Lab	2
EET 252	Electrical Construction II	2
EET 253	Electrical Construction II Lab	2
Total Credits		67-68

Broadband Telecommunications Equipment Installer Track

Offered at: Big Sandy Community and Technical College

Program Plan Number: 470103702

Course	Title	Credits
Broadband Technology Requirements		46-47
CIT 125	Intro to Digital Maps	3
BBT 220	PBX Installations	2
BBT 201	Advanced Cellular Technology	2
ELT 224	Basic Telecommunications Installation and Maintenance	3
EET 110	Voice & Data Installer Level I	4

EET 116	Fiber Optics Systems	3
Total Credits		63-64

Broadband Basic Installer - Certificate

Offered at: Big Sandy Community and Technical College, Southeast Kentucky Community and Technical College

Program Plan Number: 4701033050

Course	Title	Credits
ELT 110	Circuits I	5
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
ELT 224	Basic Telecommunications Installation and Maintenance	3
Total Credits		13

Broadband Cyber Security Technician - Certificate

Offered at: Big Sandy Community and Technical College, Southeast Kentucky Community and Technical College

Program Plan Number: 4701033090

Course	Title	Credits
BBT 210	Security Systems Applications	3
EET 110	Voice & Data Installer Level I	4
Select one of the following two options:		3
CIT 105	Introduction to Computers	
Digital Literacy Course		
CIT 111	Computer Hardware and Software	4
CIT 161	Introduction to Networks	4
CIT 180	Security Fundamentals	3
CIT 184	Attacks and Exploits	3
CRJ 220	Introduction to Computer Forensics for Criminal Justice	3
Total Credits		27

Broadband Support Technician - Certificate

Offered at: Big Sandy Community and Technical College, Southeast Kentucky Community and Technical College

Program Plan Number: 4701033060

Course	Title	Credits
ELT 110	Circuits I	5
ELT 120	Digital I	3
Select one of the following two options:		3
CIT 105	Introduction to Computers	
Digital Literacy Course		
CIT 111	Computer Hardware and Software	4

CIT 161	Introduction to Networks	4
ISX 100	Industrial Safety	3
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2

**Total Credits** 27

## Broadband Technician Specialist - Certificate

**Offered at:** Big Sandy Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4701033070

Course	Title	Credits
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
EET 110	Voice & Data Installer Level I	4
EET 116	Fiber Optics Systems	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 222	Mechanics of Telephony	3
EET 154	Electrical Construction I	2
EET 155	Electrical Construction I Lab	2
EET 252	Electrical Construction II	2
EET 253	Electrical Construction II Lab	2

**Total Credits** 26

## Broadband Telecommunications Equipment Installer - Certificate

**Offered at:** Big Sandy Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4701033080

Course	Title	Credits
Select one of the following two options:		3
CIT 105	Introduction to Computers	4
Digital Literacy Course		
CIT 111	Computer Hardware and Software	4
BBT 220	PBX Installations	2
BBT 200	Introduction to Cellular Technology	2
EET 110	Voice & Data Installer Level I	4
EET 116	Fiber Optics Systems	3
CIT 161	Introduction to Networks	4
Technical Elective Approved by Program Coordinator		1-3

**Total Credits** 23-25

## Business Administration

The Business Administration Program prepares students for a variety of careers in business. A core curriculum provides students with a foundation of knowledge applicable to any business career. The Business Administration Program offers an Associate in Applied Science degree, diplomas, and a variety of certificates in the areas of Accounting,

Entrepreneurship, Financial Perspectives, General Business, Hospitality Management, Human Resource Management, Informatics, Leadership, Management, Operations Management, Real Estate Management, Small Business Management, Team Leadership and more.

The curriculum is designed for those who seek entry level jobs as well as for currently employed individuals wishing to enhance their skills. A student specializes by choosing from the following Tracks, Diplomas and Certificates:

The Accounting Track/Certificate leads to careers in accounting including bookkeeper, accounting clerk, cost payroll clerk and positions using microcomputer-based systems.

The Business Management Track leads to careers for planning and managing people and other resources within organizations.

The Equine Business Management Track provides the knowledge and skills students need to take advantage of various employment opportunities within the horse industry.

The Hospitality Management Track/Certificate prepares students for careers directing specific aspects of hospitality operations and for overall hospitality management.

The Human Resource Management Track/Certificate prepares students for entry-level positions in the human resource field and related occupations.

The Management Track/Certificate prepares the student with broad-based management knowledge and skills which lead to a variety of positions in organizations.

The Marketing Track prepares for careers in various industries utilizing skills within marketing, sales, retail management, social media marketing or entrepreneurship.

The Real Estate Management Track/Certificate leads to a career in real estate which may include sales, finance, counseling, development, marketing analysis, valuation, and/or property management.

The Organizational Leadership Diploma curriculum is designed to prepare students to manage a department or to become team leaders in team-based or self-managed organizations.

The Small Business Management Diploma/Certificate curricula is designed to prepare students for the position of entrepreneur and business owner and offers the prospective business owner the fundamentals of starting and operating a business.

The Accounting Recordkeeping Specialist Certificate prepares students for entry level employment as a bookkeeper.

The Advanced Business Administration Certificate is designed to be a building block to complete the Associate in Applied Science Degree, Business Administration Core courses.

The Business Transfer Certificate is designed to provide the business transfer student an exit point by offering business preparation courses that will transfer to a four-year institution.

The Entrepreneurship Certificate is focused on providing foundational business knowledge necessary to turn a project, idea, product, or service into a business venture. Certificate graduates will learn how to prepare a business plan, identify sources of venture and operating capital, gain product development knowledge, learn methods of marketing their idea

or business, learn how to read and understand financial statements, and gain personal and organization leadership qualities that will provide business tools to new or current entrepreneurs.

The Financial Perspectives Certificate prepares the student for entry-level positions in accounting, financial services, and small business management.

The General Business Certificate prepares the student for positions in supervision, management, and general business.

The Operations Management Certificate provides students with the knowledge and skills needed to effectively function as first-line supervisors in an operations environment whether in distribution, services, or manufacturing. It will also increase the understanding of the operations function for non-operations students who will be working in a distribution, services or manufacturing organization.

The Payroll Accounting Specialist Certificate prepares the student for entry level work in payroll processing.

The Public Leadership Certificate enables the student to qualify for leadership positions, work effectively in teams, lead problem solving work groups, understand the conflict resolution processes and plan effectively. The Supervisory Management Certificate prepares the student in the field of front-line supervision.

The Social Media Marketing Certificate will provide students who are interested in social media technology a holistic approach to running a social media marketing campaign.

The Team Leadership Certificate prepares the student for a career in team leadership, supervision and/or management in a variety of different organizations. Modules are available.

## Degrees

- Business Administration - AAS (p. 136)
  - Accounting Track (p. 137)
  - Business Management Track (p. 137)
  - Equine Business Management Track (p. 137)
  - Hospitality Management Track (p. 138)
  - Human Resource Management Track (p. 138)
  - Management Track (p. 138)
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## Diplomas

- Organizational Leadership - Diploma (p. 140)
- Small Business Management - Diploma (p. 140)

## Certificates

- Accounting - Certificate (p. 141)
- Accounting Recordkeeping Specialist - Certificate (p. 141)
- Advanced Business Administration - Certificate (p. 142)
- Business Transfer - Certificate (p. 142)
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- Financial Perspectives - Certificate (p. 142)
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- Human Resource Management - Certificate (p. 143)
- Management - Certificate (p. 144)
- Operations Management - Certificate (Business Administration) (p. 144)
- Payroll Accounting Specialist - Certificate (p. 144)
- Public Leadership - Certificate (p. 144)
- Real Estate Pre-Licensing - Certificate (p. 145)
- Real Estate Residential - Certificate (p. 145)
- Small Business Management - Certificate (p. 145)
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- Supervisory Management - Certificate (p. 146)
- Team Leadership - Certificate (p. 146)

## Business Administration - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202017129

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
Any Economics Course		3
Select one of the following four options:		3
MAT 105	Business Mathematics	
MAT 110	Applied Mathematics	
MAT 150	College Algebra	
Higher Quantitative Reasoning		
Heritage/Humanities		3
Natural Sciences		3
Subtotal		18
<b>Technical Courses</b>		
ACC 201	Financial Accounting	3
ACC 202	Managerial Accounting	3
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
ENG 102	Writing II	3
or OST 235	Business Communications Technology	
BAS 160	Introduction to Business	3
BAS 260	Professional Development and Protocol	2
BAS 270	Business Employability Seminar	1

BAS 267	Introduction to Business Law	3
BAS 282	Principles of Marketing	3
BAS 283	Principles of Management	3
Technical Subtotal		27
General Education and Technical Core Subtotal		45

*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Accounting Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 520201701

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
ACT 279	Computerized Accounting Systems	3
ACT 281	Individual Taxation	3
ACT 286	Financial Accounting Topics	3
Select one of the following three options:		3
BAS 110	Worksheets in Business Applications	
CIT 130	Productivity Software	
OST 240	Advanced Microsoft Applications	
Select six hours (not duplicated from the core) from the following seven technical courses:		6
ACT 196	Payroll Accounting	
ACT 277	Managerial Accounting Topics	
ACT 290	Selected Topics in Accounting: (Topic)	
ACT 295	Corporate and Partnership Taxation	
BAS 120	Personal Finance	
BAS 212	Introduction to Financial Management	
COE 199	Cooperative Education: (Topic)	
or BAS 280	Business Internship	
<b>Total Credits</b>		<b>63</b>

## Business Management Track

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 520201717

*Note: Students in this track must take ENG 102 Writing II (3 credit hours), MAT 150 College Algebra (3 credit hours) or higher quantitative reasoning and ECO 201 Principles of Microeconomics (3 credit hours) or ECO 202 Principles of Macroeconomics (3 credit hours) as part of the core.*

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
BAS 200	Small Business Management	3
or MGT 256	Operations Management	
BAS 274	Human Resource Management	3
or BAS 287	Supervisory Management	
MGT 292	Strategic Management	3
MGT 210	Managing Quality	3
Select six credit hours from the following list of options:		6
BAS 120	Personal Finance	
BAS 288	Personal and Organizational Leadership	
COE 199	Cooperative Education: (Topic)	
ECO 202	Principles of Macroeconomics	
ENG 203	Business Writing	
IMD 275	Information Management and Communications	
MAT 170	Brief Calculus with Applications	
BAS 200	Small Business Management	
BAS 290	Management, Ethics and Society	
MGT 256	Operations Management	
MGT 258	Project Management	
BAS 274	Human Resource Management	
BAS 287	Supervisory Management	
MKT 155	Personal Selling	
MKT 290	Advertising and Promotion	
MKT 291	Retail Management	
MKT 293	Buying and Merchandising	
BAS 299	Selected Topics in Business Management: (Option Topic)	
MKT 299	Selected Topics in Marketing	
BAS 110	Worksheets in Business Applications	
or CIT 130	Productivity Software	
or OST 240	Advanced Microsoft Applications	
PSY 110	General Psychology	
or SOC 101	Introduction to Sociology	
REA 100	Real Estate Principles I	
REA 120	Real Estate Marketing	
STA 296U	Statistical Methods and Motivations	
<b>Total Credits</b>		<b>63</b>

## Equine Business Management Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 520201718

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
EQS 110	Basic Equine Physiology	3
EQS 103		1
EQS 104	Equine Care Lab	1-3
or EQS 299	Equine Studies Cooperative Education	
EQS 118	Equine Bloodstock	3

EQS 130	Introduction to the Racing Industry	3
EQM 120	Introduction to Commercial Breeding Practices	3
EQS 240	Equine Legal and Business Principles	3
<b>Total Credits</b>		<b>62-64</b>

## Hospitality Management Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, West Kentucky Community and Technical College

**Program Plan Number:** 520201703

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
HOS 100	Introduction to Hospitality Management	3
CUL 100	Introduction to Culinary Arts	2
HOS 282	Tourism Marketing	3
Select nine hours (not duplicated from the core) from the following list of Technical Courses:		9
BAS 200	Small Business Management	
BAS 274	Human Resource Management	
BAS 290	Management, Ethics and Society	
COE 199	Cooperative Education: (Topic)	
or BAS 280	Business Internship	
CUL 105	Applied Introduction to Culinary Arts	
CUL 125	Sanitation and Safety	
CUL 270	Human Relations Management	
CUL 280	Cost and Control	
HOS 160	Security for the Hospitality Industry	
HOS 200	Cultural Heritage Tourism	
HOS 210	Front Office Operations	
<b>Total Credits</b>		<b>62</b>

## Human Resource Management Track

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Madisonville Community College, Maysville Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 520201715

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
BAS 274	Human Resource Management	3
BAS 287	Supervisory Management	3
ACT 196	Payroll Accounting	3

Select nine hours (not duplicated from the core) from the following list of Technical Electives:		9
BAS 280	Business Internship	
or COE 199	Cooperative Education: (Topic)	
BAS 201	Customer Service Improvement Skills	
BAS 212	Introduction to Financial Management (or Second Quantitative Reasoning Course)	
BAS 284	Applied Management Skills	
BAS 288	Personal and Organizational Leadership	
BAS 290	Management, Ethics and Society	
BAS 299	Selected Topics in Business Management: (Option Topic)	
BAS 110	Worksheets in Business Applications	
or CIT 130	Productivity Software	
or OST 240	Advanced Microsoft Applications	
OST 275	Office Management	
PSY 180	Human Relations	
<b>Total Credits</b>		<b>63</b>

## Management Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 520201708

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
BAS 287	Supervisory Management	3
or BAS 288	Personal and Organizational Leadership	
Select one of the following three options:		3
BAS 212	Introduction to Financial Management	
BAS 120	Personal Finance	
Second Quantitative Reasoning Course <sup>1</sup>		
BAS 284	Applied Management Skills	3
or BAS 256	International Business	
Select 9 hours (not duplicated from the core) from the following list of Management and/or Technical Courses with a minimum of 3 hours selected from Management Courses:		9
<i>Management Courses</i>		
BAS 170	Entrepreneurship	
BAS 200	Small Business Management	
BAS 201	Customer Service Improvement Skills	
BAS 212	Introduction to Financial Management	



BAS 256	International Business
BAS 274	Human Resource Management
BAS 287	Supervisory Management
BAS 288	Personal and Organizational Leadership
BAS 289	Operations Management
BAS 290	Management, Ethics and Society
or PHI 150	Business Ethics
BAS 291	Retail Management
BAS 299	Selected Topics in Business Management: (Option Topic)
OST 275	Office Management
<b>Technical Courses</b>	
ACT 177	Entrepreneurial Accounting
ACT 196	Payroll Accounting
BAS 110	Worksheets in Business Applications
or CIT 130	Productivity Software
or OST 240	Advanced Microsoft Applications
BAS 120	Personal Finance
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies
ENG 203	Business Writing
or ENG 102	Writing II
CIT 155	Web Page Development
COE 199	Cooperative Education: (Topic)
or BAS 280	Business Internship
ECO 150	Introduction to Global Economics
ECO 201	Principles of Microeconomics
or ECO 202	Principles of Macroeconomics
LOM 100	Introduction to Logistics Management
OST 235	Business Communications Technology
PSY 110	General Psychology
QMS 101	Introduction to Quality Systems
SPA 101	Elementary Spanish I (spoken approach)
<b>Total Credits</b>	<b>63</b>

<sup>1</sup> Must be a General Education Quantitative Reasoning that is different from core Quantitative Reasoning selection.

## Marketing Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 520201719

Note: Students must select a marketing sequence and 6 credit hours from the Approved Marketing Electives. Students in this track must take ENG 102 Writing II (3 credit hours), MAT 150 College Algebra (3 credit hours) or higher quantitative reasoning and ECO 201 Principles of Microeconomics (3 credit hours) or ECO 202 Principles of Macroeconomics (3 credit hours) as part of the core.

Course	Title	Credits
General Education and Technical Core Subtotal		45
Select one of the following four options:		12
Marketing Sequence (p. 139)		
Retail Management Sequence (p. 139)		

Social Media Marketing Sequence (p. 139)

Entrepreneurship Sequence (p. 139)	
Approved Marketing Electives	6
<b>Total Credits</b>	<b>63</b>

## Marketing Sequence

Course	Title	Credits
MKT 290	Advertising and Promotion	3
MKT 295	Consumer Behavior	3
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies	3
BAS 290	Management, Ethics and Society	3
<b>Total Credits</b>		<b>12</b>

## Retail Management Sequence

Course	Title	Credits
MKT 291	Retail Management	3
MKT 155	Personal Selling	3
MKT 290	Advertising and Promotion	3
BAS 290	Management, Ethics and Society	3
<b>Total Credits</b>		<b>12</b>

## Social Media Sequence

Course	Title	Credits
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies	3
BAS 126	Social Media Marketing: Project Management and Implementation Strategies	3
MKT 290	Advertising and Promotion	3
IMD 115	Introduction to Graphic Design	3
<b>Total Credits</b>		<b>12</b>

## Entrepreneurship Sequence

Course	Title	Credits
BAS 170	Entrepreneurship	3
BAS 200	Small Business Management	3
BAS 288	Personal and Organizational Leadership	3
MKT 155	Personal Selling	3
<b>Total Credits</b>		<b>12</b>

## Approved Marketing Electives

Course	Title	Credits
Select six hours from the following list of course options (unless taken as part of a sequence):		6

ENG 203	Business Writing
BAS 120	Personal Finance
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies
BAS 126	Social Media Marketing: Project Management and Implementation Strategies
BAS 200	Small Business Management
BAS 288	Personal and Organizational Leadership
MGT 258	Project Management

MKT 299	Selected Topics in Marketing (Selected Topics in Business Management and Marketing)
COE 199	Cooperative Education: (Topic)
BAS 110	Worksheets in Business Applications
or CIT 130	Productivity Software
or OST 240	Advanced Microsoft Applications
ECO 202	Principles of Macroeconomics
IMD 115	Introduction to Graphic Design
IMD 126	Introduction to Desktop Publishing
IMD 127	Vector Design with Adobe Illustrator
IMD 128	Raster Design with Adobe PhotoShop

## Real Estate Management Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 520201706

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		45
REA 100	Real Estate Principles I	3
REA 121	Appraising	3
REA 225	Real Estate Finance	3
REA 230	Real Estate Law	3
Select six hours (not duplicated from the core) from the following 11 Technical Courses:		6
Students may select other courses as approved by the Real Estate Program Coordinator.		
REA 120	Real Estate Marketing	
REA 122	Construction and Blueprints	
REA 200	Real Estate Principles II	
REA 201	Property Management	
REA 202	Real Estate Investments I	
REA 203	Commercial and Industrial Property	
REA 204	Land Planning and Development	
REA 205	Farm Brokerage	
REA 212	Real Estate Investments II	
REA 220	Real Estate Brokerage Management	
COE 199	Cooperative Education: (Topic)	
or BAS 280	Business Internship	
<b>Total Credits</b>		<b>63</b>

## Organizational Leadership - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202014029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
ENG 101	Writing I	
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
<i>Area 2</i>		
Any Economics Course		3
Subtotal		6
<b>Required Technical</b>		
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
BAS 160	Introduction to Business	3
BAS 283	Principles of Management	3
BAS 284	Applied Management Skills	3
BAS 287	Supervisory Management	3
BAS 288	Personal and Organizational Leadership	3
ACC 201	Financial Accounting	3
BAS 280	Business Internship	1-4
or COE 199	Cooperative Education: (Topic)	
Subtotal		22-25
<b>Approved Technical Courses</b>		
Select 11-12 hours (not duplicated from the core) from the following 11-12 ten Technical Courses. Students may select other courses as approved by the Business Administration Program Coordinator.		
ACC 202	Managerial Accounting	
BAS 212	Introduction to Financial Management	
BAS 260	Professional Development and Protocol	
BAS 267	Introduction to Business Law	
BAS 274	Human Resource Management	
BAS 282	Principles of Marketing	
BAS 290	Management, Ethics and Society	
CIT 130	Productivity Software	
or OST 240	Advanced Microsoft Applications	
or BAS 110	Worksheets in Business Applications	
OST 275	Office Management	
Quantitative Reasoning Course		
Subtotal		11-12
<b>Total Credits</b>		<b>39-43</b>

## Small Business Management - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202014039

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
ENG 101	Writing I	
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
<i>Area 2</i>		
Any Economics Course		3
Subtotal		6
<b>Required Technical</b>		
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
Select one of the following two options:		3
BAS 160	Introduction to Business	
BAS 170	Entrepreneurship <sup>1</sup>	
BAS 200	Small Business Management	3
Select one of the following:		3
BAS 212	Introduction to Financial Management <sup>1</sup>	
Second Quantitative Reasoning Course <sup>1</sup>		
BAS 267	Introduction to Business Law	3
BAS 282	Principles of Marketing	3
BAS 283	Principles of Management	3
ACC 201	Financial Accounting	3
or ACT 177	Entrepreneurial Accounting	
BAS 280	Business Internship	1-4
or COE 199	Cooperative Education: (Topic)	
Subtotal		25-28
Select six credit hours (not duplicated from the core) from the following list of Technical Course options:		6
ACT 196	Payroll Accounting	
ACC 202	Managerial Accounting	
BAS 170	Entrepreneurship <sup>1</sup>	
BAS 201	Customer Service Improvement Skills	
BAS 212	Introduction to Financial Management <sup>1</sup>	
BAS 274	Human Resource Management	
BAS 284	Applied Management Skills	
BAS 287	Supervisory Management	
BAS 288	Personal and Organizational Leadership	
BAS 290	Management, Ethics and Society	
CIT 130	Productivity Software	
or OST 240	Advanced Microsoft Applications	
or BAS 110	Worksheets in Business Applications	
Students may select other courses as approved by the Business Administration Program Coordinator.		
<b>Total Credits</b>		<b>37-40</b>

<sup>1</sup> Not allowed as an Approved Technical Course if course has been taken as a required course.

## Accounting - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013119

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
<b>Required</b>		
ACC 201	Financial Accounting	3
ACC 202	Managerial Accounting	3
Select twelve hours of the following ten Technical Courses. Students may select other courses as approved by the Business Administration Program Coordinator.		12
ACT 196	Payroll Accounting	
ACT 277	Managerial Accounting Topics	
ACT 279	Computerized Accounting Systems	
ACT 281	Individual Taxation	
ACT 286	Financial Accounting Topics	
ACT 290	Selected Topics in Accounting: (Topic)	
ACT 295	Corporate and Partnership Taxation	
BAS 120	Personal Finance	
BAS 212	Introduction to Financial Management	
COE 199	Cooperative Education: (Topic)	
or BAS 280	Business Internship	
<b>Total Credits</b>		<b>18</b>

## Accounting Recordkeeping Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013429

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
<b>Required</b>		
ACC 201	Financial Accounting	3
ACT 196	Payroll Accounting	3

ACT 279	Computerized Accounting Systems	3
ACT 281	Individual Taxation	3
ACT 286	Financial Accounting Topics	3
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
<b>Total Credits</b>		<b>18</b>

## Advanced Business Administration - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013129

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
BAS 282	Principles of Marketing	3
BAS 283	Principles of Management	3
BAS 267	Introduction to Business Law	3
BAS 284	Applied Management Skills	3
or BAS 256	International Business	
Select one of the following three options:		3
CIT 130	Productivity Software	
OST 240	Advanced Microsoft Applications	
BAS 110	Worksheets in Business Applications	
<b>Total Credits</b>		<b>15</b>

## Business Transfer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013149

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
ACC 201	Financial Accounting	3
ACC 202	Managerial Accounting	3
BAS 267	Introduction to Business Law	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
STA 220	Statistics	3
<b>Total Credits</b>		<b>18</b>

## Entrepreneurship - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013379

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
ACC 201	Financial Accounting	3
or ACT 177	Entrepreneurial Accounting	
BAS 170	Entrepreneurship	3
BAS 282	Principles of Marketing	3
BAS 287	Supervisory Management	3
or BAS 288	Personal and Organizational Leadership	
Select one of the following three Technical Courses:		3
BAS 110	Worksheets in Business Applications	
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies	
BAS 201	Customer Service Improvement Skills	
<b>Total Credits</b>		<b>15</b>

## Financial Perspectives - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013159

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
ACC 201	Financial Accounting	3
BAS 120	Personal Finance	3
BAS 160	Introduction to Business	3
BAS 212	Introduction to Financial Management	3
or BAS 293	Principles of Finance	
Select one of the following two Technical Courses:		3
BAS 290	Management, Ethics and Society	
PHI 150	Business Ethics	
<b>Total Credits</b>		<b>15</b>

## General Business - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013169

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
BAS 160	Introduction to Business	3
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
ACC 201	Financial Accounting	3
Any Economics Course		3
<b>Total Credits</b>		<b>12</b>

## Hospitality Management - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013179

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
HOS 100	Introduction to Hospitality Management	3
CUL 100	Introduction to Culinary Arts	2
HOS 282	Tourism Marketing	3

Select nine hours from the following 12 Technical Courses. Students may select other courses (HOS or CUL) as approved by the Business Administration Program Coordinator.

BAS 200	Small Business Management
BAS 274	Human Resource Management
COE 199	Cooperative Education: (Topic)
or BAS 280	Business Internship
BAS 290	Management, Ethics and Society
CUL 105	Applied Introduction to Culinary Arts
CUL 125	Sanitation and Safety
CUL 270	Human Relations Management
CUL 280	Cost and Control
HOS 160	Security for the Hospitality Industry
HOS 200	Cultural Heritage Tourism
HOS 210	Front Office Operations

**Total Credits** **17**

## Human Resource Management - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Madisonville Community College, Maysville Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013359

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
BAS 274	Human Resource Management	3
BAS 287	Supervisory Management	3
ACT 196	Payroll Accounting	3

Select nine hours from the following Elective Courses. Students may select other courses as approved by the Business Administration Program Coordinator.

BAS 201	Customer Service Improvement Skills
<i>Select from one of the three courses below:</i>	
BAS 120	Personal Finance
BAS 212	Introduction to Financial Management
<i>Second Quantitative Reasoning Course</i>	
BAS 280	Business Internship
or COE 199	Cooperative Education: (Topic)
CIT 130	Productivity Software
or OST 240	Advanced Microsoft Applications
or BAS 110	Worksheets in Business Applications
BAS 256	International Business
BAS 284	Applied Management Skills
BAS 288	Personal and Organizational Leadership
BAS 290	Management, Ethics and Society



BAS 299	Selected Topics in Business Management: (Option Topic)	
OST 275	Office Management	
PSY 180	Human Relations	
<b>Total Credits</b>		<b>18</b>

## Management - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013209

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Required		
BAS 283	Principles of Management	3
Select one of the following three course options.		3
BAS 120	Personal Finance	
BAS 212	Introduction to Financial Management	
Second Quantitative Reasoning Course		
BAS 284	Applied Management Skills	3
or BAS 256	International Business	
Choose 2 courses from the following course list. Students may select other courses as approved by the Business Administration Program Coordinator.		6
BAS 110	Worksheets in Business Applications	
or CIT 130	Productivity Software	
or OST 240	Advanced Microsoft Applications	
BAS 200	Small Business Management	
BAS 201	Customer Service Improvement Skills	
BAS 256	International Business	
BAS 260	Professional Development and Protocol	
BAS 274	Human Resource Management	
BAS 287	Supervisory Management	
BAS 288	Personal and Organizational Leadership	
BAS 289	Operations Management	
BAS 290	Management, Ethics and Society	
BAS 291	Retail Management	
BAS 299	Selected Topics in Business Management: (Option Topic)	
OST 275	Office Management	
Total Credits		15

## Operations Management - Certificate (Business Administration)

**Offered at:** Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013369

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
BAS 160	Introduction to Business	3
BAS 287	Supervisory Management	3
or BAS 288	Personal and Organizational Leadership	
QMS 101	Introduction to Quality Systems	3
Choose one of the following 3 options:		3
BAS 289	Operations Management	
MFG 256	Production Management	
MGT 256	Operations Management	
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
<b>Total Credits</b>		<b>15</b>

## Payroll Accounting Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013499

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
ACC 201	Financial Accounting	3
ACT 196	Payroll Accounting	3
ACT 279	Computerized Accounting Systems	3
<b>Total Credits</b>		<b>9</b>

## Public Leadership - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway

Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013199

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
BAS 288	Personal and Organizational Leadership	3
BAS 160 or BAS 170	Introduction to Business Entrepreneurship	3
BAS 283 or BAS 287	Principles of Management Supervisory Management	3
COM 181 or COM 252	Basic Public Speaking Introduction to Interpersonal Communication	3
Select one of the following three Technical Courses:		3
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies	
BAS 282	Principles of Marketing	
BAS 299	Selected Topics in Business Management: (Option Topic)	
<b>Total Credits</b>		<b>15</b>

## Real Estate Pre-Licensing - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013239

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
REA 100	Real Estate Principles I	3
Select one of the following four Technical Courses: (Students may select other courses as approved by the Business Administration Program Coordinator.)		3
REA 120	Real Estate Marketing	
REA 200	Real Estate Principles II	
REA 225	Real Estate Finance	
REA 230	Real Estate Law	
<b>Total Credits</b>		<b>6</b>

## Real Estate Residential - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013249

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course Required	Title	Credits
REA 100	Real Estate Principles I	3
REA 120	Real Estate Marketing	3
Select two of the following six Approved Technical Courses:		6
REA 121	Appraising	
REA 122	Construction and Blueprints	
REA 200	Real Estate Principles II	
REA 201	Property Management	
REA 225	Real Estate Finance	
REA 230	Real Estate Law	
<b>Total Credits</b>		<b>12</b>

## Small Business Management - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013269

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
BAS 160 or BAS 170	Introduction to Business Entrepreneurship	3
BAS 200	Small Business Management	3
Select one of the following three options:		3
BAS 120	Personal Finance	
BAS 212	Introduction to Financial Management	
	Second Quantitative Reasoning Course	
BAS 282	Principles of Marketing	3
ACC 201 or ACT 177	Financial Accounting Entrepreneurial Accounting	3

BAS 287	Supervisory Management	3
or BAS 288	Personal and Organizational Leadership	
<b>Total Credits</b>		<b>18</b>

## Social Media Marketing - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1110053009

Course	Title	Credits
<b>General Education Courses</b>		
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies	3
BAS 126	Social Media Marketing: Project Management and Implementation Strategies	3
<b>Total Credits</b>		<b>6</b>

## Supervisory Management - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013279

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
OST 235	Business Communications Technology	3
or ENG 102	Writing II	
or ENG 203	Business Writing	
BAS 160	Introduction to Business	3
BAS 287	Supervisory Management	3
Select two of the following six Technical courses. Students may select other courses as approved by the Business Administration Program Coordinator.		6
BAS 201	Customer Service Improvement Skills	
BAS 274	Human Resource Management	
BAS 283	Principles of Management	
BAS 288	Personal and Organizational Leadership	
BAS 290	Management, Ethics and Society	

OST 275	Office Management	
<b>Total Credits</b>		<b>18</b>

## Team Leadership - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5202013309

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required Courses</b>		
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
OST 235	Business Communications Technology	3
or ENG 102	Writing II	
or ENG 203	Business Writing	
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
BAS 287	Supervisory Management	3
BAS 288	Personal and Organizational Leadership	3
Select one of the following four courses. Students may select other courses as approved by the Business Administration Program Coordinator.		3
BAS 201	Customer Service Improvement Skills	
BAS 160	Introduction to Business	
BAS 274	Human Resource Management	
BAS 290	Management, Ethics and Society	
<b>Total Credits</b>		<b>18</b>

## Business Communication

The certificate in business communication will prepare students for a career in the rapidly evolving and expanding community of global enterprise. Students will learn both theoretical and applied lessons concerning effective management, team building, evaluation, message construction, effective listening, and standards for establishing mentorships through networking and workplace integration and socialization. They will complete a 5 course, 15 credit hour sequence with 2 courses selected from among class options in business and 3 courses selected from among class options in communication. There is no definitive time frame for a student to complete the certificate and they may choose to incorporate it as part of their broader degree attainment.

## Certificates

- Business Communication - Certificate (p. 147)

## Business Communication - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5202013469

Course	Title	Credits
Select two of the following five options:		6
BAS 160	Introduction to Business	
BAS 274	Human Resource Management	
BAS 282	Principles of Marketing	
BAS 283	Principles of Management	
BAS 287	Supervisory Management	
Subtotal		6
Select three of the following five options:		9
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
COM 254	Introduction to Intercultural Communication	
COM 281	Communication in Small Group	
COM 287	Persuasive Speaking	
Subtotal		9
<b>Total Credits</b>		<b>15</b>

## Business Foundations

The Business Foundations certificate incorporates foundational knowledge of finance, quality systems, and external environmental factors that affect businesses today. The certificate will prepare students to perform functions in an integrated business environment and better understand organizational strategies.

### Certificates

- Business Foundations - Certificate (p. 147)

## Business Foundations - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Gateway Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5201013029

Course	Title	Credits
QMS 101	Introduction to Quality Systems	3
Select one of the following two options:		3-6
ACC 201	Financial Accounting	
ACT 101 & ACT 102	Fundamentals of Accounting I and Fundamentals of Accounting II	
Select one of the following three options:		3
ECO 201	Principles of Microeconomics	
ECO 101	Contemporary Economic Issues	
ECO 202	Principles of Macroeconomics	

Select three technical courses of the following five options: 9

BAS 267	Introduction to Business Law
BAS 290	Management, Ethics and Society <sup>1</sup>
BAS 288	Personal and Organizational Leadership
QMS 240	Statistics for Quality I <sup>2</sup>
QMS 212	Project Management

**Total Credits** 18-21

<sup>1</sup> BAS 290 Management, Ethics and Society (3 credit hours) pre-requisite is BAS 283 Principles of Management (3 credit hours) or Consent of Instructor. BAS 283 Principles of Management (3 credit hours) pre-requisite is BAS 160 Introduction to Business (3 credit hours) or Consent of Instructor.

<sup>2</sup> QMS 240 Statistics for Quality I (3 credit hours) pre-requisite is MAT 150 College Algebra (3 credit hours).

## Career and Life Skills

Students completing a secondary program of study, particularly those who have had to overcome challenges to their educational success, can benefit from continuing their studies at the postsecondary level even if they are unsure of their career direction. The Career and Life Skills certificate is designed to improve employability through college-level coursework that includes life-long learning skills, digital literacy, and career exploration, as well as essential workplace skills through experiential learning opportunities. The certificate, using an individualized, person-centered planning approach, provides the flexibility to tailor the program of study based on the student's needs and interests.

This allows the student to explore one or more introductory technical courses as a part of the certificate while developing the social skills and the general workforce readiness critical to entry-level employment and success.

All CLS students will have at least one mentor. Mentors may be CTP program affiliated staff in the Counseling Center, Pre-Employment Transition Services staff, TRiO staff, Experiential Learning Center Success Coaches, community partners serving students with intellectual disabilities, faculty members teaching the classes in which the student is enrolled, students majoring in education/social work/psychology—and peers, including, but not limited to, those in the student's program of study and/or second-year CLS students. In addition to coursework and mentorship, students will engage in co-curricular and extracurricular events on- and off-campus to enrich and enhance the student's learning experience and further develop their social skills.

### Certificate

- Career and Life Skills - Certificate (p. 147)

## Career and Life Skills - Certificate

**Offered at:** Owensboro Community and Technical College

**Program Plan Number:** 3099993019

Course	Title	Credits
College Success		
Select one of the following two options:		3-4
FYE 105	Achieving Academic Success	



FYE 100 & GEN 102	Strategies for College Success and Foundations of Learning	
<b>Digital Literacy</b>		
Digital Literacy Course or demonstrated competency		0-3
<b>Career and Life Skills</b>		
GEN 175	Career and Life Skills Development	3
GEN 276	Employment and Professional Skills	1
<b>Experiential Learning/Developing a Career Identity</b>		
Select one of the following three options:		3
EX 196	Experiential Education	
GEN 120	Service Learning	
GEN 103 & GEN 104	Principles of Peer Mentoring and Applied Principles of Peer Mentoring	
Technical Coursework and/or additional experiential education <sup>1</sup>		6
<b>Total Credits</b>		<b>16-20</b>

<sup>1</sup> Students may have select technical courses as approved by the Career and Life Skills Program Coordinator.

## Certified Medical Technician

The program bundles the current classes of NAA 100 Nursing Assistant Skills I (3 credit hours), PHB 152 Phlebotomy: Clinical Experience (1 credit hours), PHB 170 Applied Phlebotomy (3 credit hours) and CPR 100 CPR for Healthcare Professionals (1 credit hours). Once all of these classes are completed successfully the graduate will be eligible to receive the certified medical technician certificate. The program allows the graduate to either enter the healthcare field with a varied technical skill set and/or enter a healthcare program.

### Certificates

- Certified Medical Technician - Certificate (p. 148)

## Certified Medical Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5108993039

Course	Title	Credits
CPR 100	CPR for Healthcare Professionals	1
NAA 100	Nursing Assistant Skills I	3
PHB 152	Phlebotomy: Clinical Experience	1
PHB 170	Applied Phlebotomy	3
<b>Total Credits</b>		<b>8</b>

## Civil Engineering Technology

The Civil Engineering Technology program is designed to offer students the training necessary to establish careers in civil engineering technology fields. Career options include materials testing; residential and highway surveying; highway construction management; construction

documentation; civil & survey mapping; construction site design and waste-water management.

Progression in the Civil Engineering Technology Program is contingent upon achievement of a grade "C" or greater in each technical and mathematics course with a maintenance of a 2.0 cumulative grade point average or above (based on a 4.0 scale).

### Degrees

- Civil Engineering Technology - AAS (p. 148)

### Diplomas

- Civil Engineering Technology - Diploma (p. 149)

### Certificates

- Civil Engineering Technician I - Certificate (p. 149)
- Civil Engineering Technician II - Certificate (p. 149)
- Civil Engineering Technician III - Certificate (p. 150)

### Technical Electives

Course	Title	Credits
Any courses with ACH, BRX, CAD, CET, COE, GIS, and SMT prefixes		
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
PLW 100	Introduction to Engineering Design	4
PLW 125	Principles of Engineering	4
PLW 225	Civil Engineering and Architecture	4
PLW 295	Engineering Design and Development	4
TRU 100	Truck Driving	6

This list is not all inclusive. Other courses may be taken as approved by the program coordinator.

## Civil Engineering Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 1502017019

Progression in the Civil Engineering Technology Program is contingent upon achievement of a grade "C" or greater in each technical and mathematics course with a maintenance of a 2.0 cumulative grade point average or above (based on a 4.0 scale).

Course	Title	Credits
<b>Required</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 116	Technical Mathematics	
Higher Level Quantitative Reasoning course		
Natural Sciences		3
Social/Behavioral Sciences Course		3
Heritage/Humanities		3
Oral Communications		3



Subtotal	18
<b>Technical Core</b>	
CAD 100	Introduction to Computer Aided Design 3
CAD 102	Drafting Fundamentals 4
SMT 110	Principles of Surveying 3
CET 150	Civil Engineering Graphics 3
CET 200	Civil Engineering Materials 3
or SMT 130	Land Surveying Graphics
CET 210	Infrastructure Analysis and Design 3
CET 260	Hydrology and Drainage 3
Select one of the following three options:	1-3
CAD 298	Practicum
CAD 299	Cooperative Education
COE 199	Cooperative Education: (Topic)
Technical Electives	19
Subtotal	42-44
<b>Total Credits</b>	<b>60-62</b>

## Civil Engineering Technology - Diploma

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 1502014019

Course	Title	Credits
<b>General Education</b>		
Select one of following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Select one of the following two options:		3
MAT 116	Technical Mathematics	
Higher Level Quantitative Reasoning course		
Subtotal		6
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
SMT 110	Principles of Surveying	3
CET 150	Civil Engineering Graphics	3
CET 200	Civil Engineering Materials	3
or SMT 130	Land Surveying Graphics	
CET 210	Infrastructure Analysis and Design	3
CET 260	Hydrology and Drainage	3
Select one of the following three options:		1-3
CAD 298	Practicum	
CAD 299	Cooperative Education	
COE 199	Cooperative Education: (Topic)	
Technical Electives		19
Subtotal		42-44
<b>Total Credits</b>		<b>48-50</b>

## Civil Engineering Technician I - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 1502013019

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Select one of the following two options:		3
MAT 116	Technical Mathematics	
Higher Level Quantitative Reasoning course		
Subtotal		6
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
SMT 110	Principles of Surveying	3
Subtotal		10
<b>Total Credits</b>		<b>16</b>

## Civil Engineering Technician II - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 1502013029

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Select one of the following two options:		3
MAT 116	Technical Mathematics	
Higher Level Quantitative Reasoning course		
Subtotal		6
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
SMT 110	Principles of Surveying	3
CET 150	Civil Engineering Graphics	3
Technical Electives		3-4
Subtotal		16-17
<b>Total Credits</b>		<b>22-23</b>

## Civil Engineering Technician III - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 1502013039

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
Select one of the following two options:		3
MAT 116	Technical Mathematics	
	Higher Level Quantitative Reasoning course	
Subtotal		6
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
SMT 110	Principles of Surveying	3
CET 150	Civil Engineering Graphics	3
CET 200	Civil Engineering Materials	3
	or SMT 130 Land Surveying Graphics	
CET 210	Infrastructure Analysis and Design	3
Technical Electives		3-4
Subtotal		22-23
<b>Total Credits</b>		<b>28-29</b>

## Community Dental Health Coordinator

This program is designed for dental hygienists or dental assistants who are interested in serving as case managers to assist patients as they navigate the dental health system, overcome obstacles to care or follow through with care as recommended by the dentist of record. Graduates may work in a variety of settings with a focused skill set pertaining to oral health, case management and motivational interviewing. Employment settings include local dental offices, government agencies, federally qualified health centers, health care facilities or other non-profit agencies. CDHCs provide oral health education, prevention intervention and dental care as specified by state practice acts.

### Certificates

- Community Dental Health Coordinator - Certificate (p. 150)

## Community Dental Health Coordinator - Certificate

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 5122083009

Course	Title	Credits
CDH 110	Dental Health Communication Skills	3
CDH 115	Dental Health Coordination, Documentation, Reporting, and Finance	3
CDH 125	Dental Health Teaching and Learning Skills	2
CDH 220	Dental Health Advocacy and Outreach	3
CDH 245	Community Dental Health Coordinator Internship	6
<b>Total Credits</b>		<b>17</b>

## Community Health Worker

The technical certificate will prepare students for a scope of practice for community health workers highlighting six central roles of: communication, organizational and community outreach, advocacy, health coaching, organization, and legal/ethics of the profession. The program will consist of on-line and in-person lab experience.

### Certificates

- Community Health Work - Certificate (p. 150)

## Community Health Work - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 5115043010

Course	Title	Credits
CHW 101	Communication for Health Worker	1
CHW 102	Organizational and Community Outreach	1
CHW 103	Advocacy	1
CHW 104	Health Coaching	1
CHW 105	Organization for Community Health Worker	1
CHW 106	Legal and Ethics for Community Health Worker	1
<b>Total Credits</b>		<b>6</b>

## Computer Aided Drafting and Design

A computer aided drafter and designer is a technical specialist with broad-based skills for architectural, civil, mechanical, and manufacturing fields. In this program, the students are taught manual drafting techniques, 2D and 3D CAD, and 3D printing. Specific skills taught include, but are not limited to, lettering, geometric construction, orthographic projections, dimensioning and tolerancing, and related technical processes. These skills are required to transform specifications and instructions of architects, designers, and engineers into complete and precise drawings. The drafter is a skilled technician with a thorough understanding of the graphic language and is an indispensable contributor to the engineering design team.

Progression in the Computer Aided Drafting and Design program is contingent upon achievement of a grade of "C" or greater in each technical and mathematics course with maintenance of a 2.0 cumulative grade point average or above (on a 4.0 scale).

### Degrees

- Computer Aided Drafting and Design - AAS (p. 151)

## Diplomas

- Computer Aided Drafting and Design - Diploma (p. 151)

## Certificates

- 3D Modeler - Certificate (p. 152)
- Architectural Designer - Certificate (p. 152)
- Building Information Modeling - Certificate (p. 152)
- Civil Drafter - Certificate (p. 152)
- Computer Assisted Drafter - Certificate (p. 153)
- Detailer - Certificate (p. 153)
- Drafter Assistant - Certificate (p. 153)

## Computer Aided Drafting and Design - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College

**Program Plan Number:** 1513017029

Progression in the Computer Aided Drafting and Design program is contingent upon achievement of a grade of "C" or greater in each technical and mathematics course with maintenance of a 2.0 cumulative grade point average or above (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
	Quantitative Reasoning <sup>1</sup>	3
	Natural Sciences	3
	Social/Behavioral Sciences	3
	Heritage/Humanities	3
	Oral Communications	3
	<b>Subtotal</b>	<b>18</b>
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
CAD 112	Engineering Graphics	4
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
CAD 298	Practicum	1-3
or CAD 299	Cooperative Education	
	<b>Technical Electives</b>	<b>22</b>
	<b>Subtotal</b>	<b>42-44</b>
	<b>Total Credits</b>	<b>60-62</b>

<sup>1</sup> MAT 105 Business Mathematics (3 credit hours) excluded.

## Technical Electives

(This list is not all inclusive, other courses may be taken as approved by the program coordinator such as courses with prefix ACH, BRX, CAR, SMT, and PLW.)

Course	Title	Credits
CAD 108	Introduction to Surveying	3
CAD 120	Introduction to Architecture	4
CAD 150	Programming in CAD	4
CAD 212	Industrial Drafting Processes	4
CAD 216	Building Information Modeling	4
CAD 220	Architectural Design	4
CAD 222	Mechanical Design	4
CAD 230	Construction Techniques	4
CAD 240	Advanced Dimensioning and Measurement	4
CAD 252	Commercial Detailing	4
CAD 262	Working Drawings	4
CAD 292	Industrial Applications	4
CAD 293	Special Problems	1-4
DPT 100	Introduction to 3D Printing Technology	3
DPT 102	3D Printing Technology Fundamentals	2
ACH 110	Survey of the Architectural Profession	1
ACH 160	Building Materials and Construction I	3
ACH 291	Construction Management	3
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3

## Computer Aided Drafting and Design - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1513014049

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
<i>Area 2</i>		
	Quantitative Reasoning <sup>1</sup>	3
	<b>Subtotal</b>	<b>6</b>
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
CAD 112	Engineering Graphics	4
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
CAD 298	Practicum	1-3
or CAD 299	Cooperative Education	

Technical Electives	22
<b>Subtotal</b>	<b>42-44</b>
<b>Total Credits</b>	<b>48-50</b>

<sup>1</sup> MAT 105 Business Mathematics (3 credit hours) excluded.

## Technical Electives

(This list is not all inclusive, other courses may be taken as approved by the program coordinator such as courses with prefix ACH, BRX, CAR, SMT, and PLW.)

Course	Title	Credits
CAD 108	Introduction to Surveying	3
CAD 120	Introduction to Architecture	4
CAD 130	Descriptive Geometry	4
CAD 150	Programming in CAD	4
CAD 212	Industrial Drafting Processes	4
CAD 216	Building Information Modeling	4
CAD 222	Mechanical Design	4
CAD 220	Architectural Design	4
CAD 230	Construction Techniques	4
CAD 240	Advanced Dimensioning and Measurement	4
CAD 252	Commercial Detailing	4
CAD 262	Working Drawings	4
CAD 292	Industrial Applications	4
CAD 293	Special Problems	1-4
DPT 100	Introduction to 3D Printing Technology	3
DPT 102	3D Printing Technology Fundamentals	2
ACH 110	Survey of the Architectural Profession	1
ACH 160	Building Materials and Construction I	3
ACH 291	Construction Management	3
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3

## 3D Modeler - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1513013099

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CAD 100	Introduction to Computer Aided Design	3
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
Technical Electives		5-7
<b>Total Credits</b>		<b>16-18</b>

## Architectural Designer - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1513013109

Course	Title	Credits
Select one of the following three options:		3-4
BRX 120	Basic Blueprint Reading	
BRX 220	Blueprint Reading for Construction	
CAD 102	Drafting Fundamentals	
CAD 100	Introduction to Computer Aided Design	3
CAD 120	Introduction to Architecture	4
CAD 220	Architectural Design	4
or CAD 216	Building Information Modeling	
CAD 230	Construction Techniques	4
<b>Total Credits</b>		<b>18-19</b>

## Building Information Modeling - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1513013119

Course	Title	Credits
ACH 110	Survey of the Architectural Profession	1
ACH 160	Building Materials and Construction I	3
or ACH 291	Construction Management	
CAD 120	Introduction to Architecture	4
CAD 216	Building Information Modeling	4
CAD 230	Construction Techniques	4
<b>Total Credits</b>		<b>16</b>

## Civil Drafter - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1513013049

Course	Title	Credits
<b>General Education</b>		
Quantitative Reasoning <sup>1</sup>		3
Subtotal		3
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
CAD 112	Engineering Graphics	4
Subtotal		11
<b>Surveying Core</b>		

Select 9-12 hours of the following nine options:	9-12
CAD 108 Introduction to Surveying	
CAD 130 Descriptive Geometry	
SMT 110 Principles of Surveying	
SMT 130 Land Surveying Graphics	
SMT 160 Construction Surveying	
SMT 210 Advanced Surveying Measurement	
SMT 220 Surveying Lab	
SMT 230 Land Boundary Location	
SMT 250 Mine Surveying	
Subtotal	9-12
<b>Total Credits</b>	<b>23-26</b>

<sup>1</sup> MAT 105 Business Mathematics (3 credit hours) excluded.

## Computer Assisted Drafter - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1513013059

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Quantitative Reasoning <sup>1</sup>		3
Subtotal		6
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
CAD 112	Engineering Graphics	4
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
Technical Elective		3-4
Subtotal		22-23
<b>Total Credits</b>		<b>28-29</b>

<sup>1</sup> MAT 105 Business Mathematics (3 credit hours) excluded.

## Detailer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard

Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1513013089

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Quantitative Reasoning <sup>1</sup>		3
Subtotal		6
<b>Technical Core</b>		
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
CAD 112	Engineering Graphics	4
CAD 200	Intermediate Computer Aided Drafting	4
Technical Elective		3-4
Subtotal		18-19
<b>Total Credits</b>		<b>24-25</b>

<sup>1</sup> MAT 105 Business Mathematics (3 credit hours) excluded.

## Drafter Assistant - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1513013079

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Quantitative Reasoning <sup>1</sup>		3
Subtotal		6
CAD 100	Introduction to Computer Aided Design	3
CAD 102	Drafting Fundamentals	4
CAD 112	Engineering Graphics	4
Subtotal		11
<b>Total Credits</b>		<b>17</b>



<sup>1</sup> MAT 105 Business Mathematics (3 credit hours) excluded.

## Computer and Information Technologies

With tracks in Business Software and Support, Cloud Computing Technologies, General, Geospatial Technologies, Informatics, Information Security, Internet Technologies, Network Administration, Network Technologies, Programming, and Video Game Design.

This program includes tracks in Business Software and Support, Cloud Computing Technologies, General, Geospatial Technologies, Informatics, Information Security, Internet Technologies, Network Administration, Network Technologies, Programming, and Video Game Design, with a core of courses common to all. The core includes a general education component essential to a collegiate education and a technical component giving students an introduction to information systems, computer applications, program development, system maintenance, networking, security, database design, and collaborative system development. In addition to core courses, students take specialty courses for their selected track.

- Students graduating with a degree or certificate in Computer & Information Technologies may only use a course with a grade of "C" or higher (or a "Pass" for Pass/Fail courses) to fulfill a core or track graduation requirement.
- The Computer & Information Technologies department does not accept non-General Education courses older than 5 years from returning or transfer students without consent from the local program coordinator.
- Students may not use one course to fulfill multiple requirements.

## Computer and Information Technologies AAS Tracks:

### Business Software and Support Track

The Business Software and Support Track emphasizes several aspects of application software. It includes such productivity applications as: word processing, spreadsheets, database management, presentation, geographic information systems, website development/maintenance, and help desk tracking systems. Completion of this track will prepare students to work with computer-based systems in business and industry.

*Business Software Specialist* - Designed to train students to operate a wide variety of software packages and to assist businesses in developing and maintain databases, producing financial statements, and developing applications using various software packages.

*Computer Applications Support* - Provides an in-depth knowledge of application software, computer system configurations, Help Desk Tools/Software, end-user documentation, user training, and other user support skills.

*Software Support* - Provides an in-depth knowledge of application software, computer system configurations, and data driven websites.

## Cloud Computing Technologies Track

The Cloud Computing Technologies Track covers the fundamentals of building IT infrastructure using cloud-based technologies. The track is designed to teach future cloud technologists how to optimize the use of cloud-based services and how these services fit into cloud-based solutions. Because architectural solutions can differ depending on industry, type of applications, and size of business, this track emphasizes best practices for cloud technologies, and it recommends various design patterns to help students think through the process of architecting optimal IT cloud-based solutions.

Within the Cloud Computing Technologies Track there is an Amazon Web Services (AWS) course sequence that is designed to prepare students to pass the AWS Cloud Practitioner Certification Exam and the AWS Cloud Architect Certification Exam.

The Cloud Computing Technologies track also includes a course sequence in Data Center Technology. This track provides experience in areas such as virtualization, storage, security, high availability and adherence to standards in provisioning of computing resources that meet business and organizational needs. The Data Center sequence can be used to prepare students for entry level positions in organizations that design and manage data centers.

## General Track

The General Track will give students the basic concepts in computer hardware and software, databases, programming, security, networking and upon completion of the track, the graduate will be qualified to take industry designed and recognized certification examinations. This degree plan will offer maximum flexibility by providing students with a range of options for program specialization with the knowledge and skills sufficient to be employable and successful in a variety of professional computing areas. Possible employment opportunities may include but are not limited to areas such as cloud computing, virtualization, programming and application development, network and system administration, and other new and innovative developments in Information Technology for both small and large organizations.

## Geospatial Technologies Track

The Geospatial Technologies Track (GST), is a rapidly growing and evolving field which enables users of location based data the ability to make informed decisions, utilizing a large array of sensors and demographics. GST utilizes both time and place as analysis factors and is recognized by the U.S. Department of Labor (DoL) as a high growth, high wage, green industry with a bright outlook. The curriculum is based upon national standards, including the DoL Geospatial Technology Competency Model (GTCM) and the NSF funded GeoTech Center model courses. Completers of the Associate of Applied Science degree will have the skills for employment in GST or associated fields such as Unmanned Aircraft System, agriculture, remote sensing, geospatial intelligence, environmental science, crime analysis, and/or demographics.

## Informatics Track

The Informatics Track prepares students interested in an advanced study of database design/management and computer programming. The curriculum may also be used to prepare students for entry into bachelor-level programs in computer science and informatics.

## Information Security Track

The Information Security Track will provide a solid background in information security. Fundamentals of information security, offensive and defensive techniques, and security topics such as operating system

security, network security design, or other security topics are covered. This track will help prepare students for entry-level positions of network security, auditing and penetration testing, firewall configuration, and computer crime investigation.

## Internet Technologies Track

The Internet Technologies Track prepares students to design, program, and maintain Internet-based services. With specializations in web programming and web server administration, this track will help prepare students for positions developing and maintaining interactive web sites.

## Network Administration Track

The Network Administration Track provides the concepts and skills needed to design, set-up, maintain and expand network and telecommunications systems. The curriculum provides specific training in Cisco, and/or Microsoft network systems. Upon completion of the track, the graduate will be qualified to take industry designed and recognized certification examinations. Employment opportunities include entry-level positions in installation and administration of local and wide area networks in medium to large businesses and organizations, and computer network administration positions in small businesses.

## Network Technologies Track

The Network Technologies Track provides the concepts and skills needed to set up, maintain, and expand networked computer systems. This track requires sequences in Microsoft Windows, Cisco, and UNIX/Linux as well as courses providing deeper insight into Internet protocols and network security. Employment opportunities include entry-level positions in installation and administration of local area networks in medium to large organizations and as computer network administrators in small businesses.

## Programming Track

The Programming Track prepares students to design, develop, and maintain computer programs written in current and emerging programming languages. With tracks in Information Systems and Software Development, students successfully completing this track are prepared for entry-level positions in computer programming.

## Video Game Design Track

The Video Game Design Track prepares students to design, develop, and market digital games and simulations. This track focuses on game development with an emphasis on game programming.

## Certificates:

### A+ Prep Certificate

The A+ Prep Certificate offers students the opportunity to earn a credential demonstrating basic competency in the area of computer hardware and software. The certificate consists of one course that prepares students for the CompTIA A+ certification exams which are recognized by the computer industry around the world. The certificate gives those who are unable, or do not need, to complete a degree a way of demonstrating their level of proficiency.

### Application Support Technician Certificate

The Application Support Technician Certificate offers students the opportunity to earn a credential demonstrating application support technician competencies. The certificate consists of the core skills that students need for computer and end-user support. In addition, this certificate will provide a way for professionals currently in the industry to

update their application support technician skills and for new students to show progress in the CIT program.

### AWS Cloud Architecting Certificate

The AWS Cloud Architecting Certificate covers the fundamentals of building IT infrastructure on Amazon Web Services, or AWS. The certificate is designed to teach future solutions architects how to optimize the use of the AWS Cloud by understanding AWS services and how these services fit into cloud-based solutions. Because architectural solutions can differ depending on industry, type of applications, and size of business, this certificate emphasizes best practices for the AWS Cloud, and it recommends various design patterns to help students think through the process of architecting optimal IT solutions on AWS.

### Cisco Networking Certificate

The Cisco Networking Associate Certificate offers students the opportunity to earn a credential demonstrating the fundamentals of computer networking. This certificate consists of the core skills that students need to effectively build and maintain computer networks. In addition, this certificate will provide a way for professionals currently in the industry to update their computer networking skills and for new students to show progress in the CIT program. The Cisco Networking Associate Certificate prepares students for the CCNA exam which is recognized by the computer industry around the world.

### Cisco Networking Enhanced Certificate

The Cisco Networking Enhanced Certificate offers students the opportunity to earn a credential demonstrating the fundamentals of computer networking. This certificate consists of the core skills that students need to effectively build and maintain computer networks. In addition, this certificate will provide a way for professionals currently in the industry to update their computer networking skills and for new students to show progress in the CIT program. The Cisco Networking Associate Certificate prepares students for the CCNA and Net+ exams which are recognized by the computer industry around the world.

### CIT Fundamentals Certificate

The CIT Fundamentals Certificate offers students the opportunity to earn a credential demonstrating basic competency in the area of computers. The certificate consists of a natural progression of classes that are required for the Associate in Applied Science degree in Computer & Information Technologies. It gives those who are unable, or do not need, to complete a degree a way of demonstrating their level of computer proficiency.

### Computer Tech Basic Certificate

The Computer Tech Basic Certificate offers students the opportunity to earn a credential demonstrating basic competency in the area of computer information technology. The certificate consists of a natural progression of classes that are required for the Associate in Applied Science degree in Computer & Information Technologies. It gives those who are unable, or do not need, to complete a degree a way of demonstrating their level of computer proficiency. The Computer Tech Basic Certificate prepares students for the CompTIA A+ and Net+ certification exams which are recognized by the computer industry around the world.

### Computer Technician Certificate

The Computer Technician Certificate offers students the opportunity to earn a credential demonstrating computer technician competencies. This certificate consists of the core skills that students need to achieve

the industry A+ and Security+ certifications. In addition, this certificate will provide a way for professionals currently in the industry to update their technician skills and for new students to show progress in the CIT program.

### Digital Forensics Specialist Certificate

The Digital Forensics Specialist Certificate offers students the opportunity to earn a credential demonstrating skills in digital forensics. Digital forensics covers the retrieval and investigation of material found in digital devices. Digital material refers to all methods of electronic data storage and transfer devices, including computers, laptops, cell phones, tablets, gaming consoles, and portable storage devices. The goal of digital forensics is to ensure the integrity of that digital material while thoroughly examining it. Digital forensics requires in-depth knowledge of the understanding of the legal as well as the technical aspects of cyber-crime. This certificate consists of the core skills that students need to demonstrate basic digital forensic skills. It provides an introduction to information security and incident response, forensic preparation and data recovery and analysis. The goals of this certificate focus on the principles and techniques used to identify, search, seize and analyze digital media, and to conduct cyber investigations. In addition, this certificate will provide a way for professionals currently in the industry to update their digital forensic skills and for new students to show progress in the CIT program.

### Informatics Advanced Certificate

The Informatics Advanced Certificate builds on the Informatics Generalist certificate for those in the workforce looking to gain deeper knowledge about informatics structure and analysis. It will prepare them to work with collaboration software, such as SharePoint, and will work with database programming and mining.

### Informatics Generalist Certificate

The Informatics Generalist Certificate is for students in the workforce looking to gain knowledge about informatics. It will prepare them to use and understand existing software and will introduce them to data analysis and how it can be used.

### Informatics Programming Certificate

The Informatics Programming Certificate offers students the opportunity to earn a credential demonstrating informatics programming competencies. It consists of core abilities that students need to design well-structured databases and effectively develop secure applications using an object-oriented programming language to interface with databases.

### Information Security Specialist Certificate

The Information Security Specialist Certificate offers students the opportunity to earn a credential demonstrating the fundamentals of information security. This certificate consists of the core skills that students need to effectively build and maintain information security systems. In addition, this certificate will provide a way for professionals currently in the industry to update their information security skills and for new students to show progress in the CIT program.

### Microsoft Enterprise Administrator Certificate

The Microsoft Enterprise Administrator certificate offers students the opportunity to earn a credential demonstrating skills in the administration and design of Microsoft enterprise networks. This certificate consists of the core skills that students need to effectively plan, build, and maintain a Microsoft network. In addition, this certificate will provide a way for

professionals currently in the industry to update their Microsoft network administrator skills.

### Microsoft Network Administrator Certificate

The Microsoft Network Administrator Certificate offers students the opportunity to earn a credential demonstrating the fundamentals of computer networking. This certificate consists of the core skills that students need to effectively build and maintain computer networks. In addition, this certificate will provide a way for professionals currently in the industry to update their computer networking skills and for new students to show progress in the CIT program.

### Mobile Apps Developer Certificate

The Mobile Apps Developer Certificate offers students the opportunity to earn a credential demonstrating mobile apps development competencies. This certificate consists of the core skills that students need to effectively develop mobile apps. It provides a way for professionals currently in the industry to update their mobile app development skills and for new students to show progress in the CIT program.

### Net+ Prep Certificate

The Net+ Prep Certificate offers students the opportunity to earn a credential demonstrating the fundamentals of computer networking. This certificate consists of the core skills that students need to effectively build and maintain computer networks. In addition, this certificate will provide a way for professionals currently in the industry to update their computer networking skills and for new students to show progress in the CIT program. The Net+ Prep Certificate prepares students for the CompTIA Net+ exam which is recognized by the computer industry around the world.

### Network Technologies Specialist Certificate

The Network Technologies Specialist Certificate offers students the opportunity to earn a credential demonstrating network technology competencies. This certificate consists of specialized networking classes that students need to effectively configure and maintain networks using network technologies specialist skills. In addition, this certificate will provide a way for professionals currently in the industry to update their network technologies specialist skills.

### Productivity Software Specialist Certificate

The Productivity Software Specialist Certificate offers students the opportunity to earn a credential demonstrating productivity software competencies. This certificate consists of the core skills that students need to effectively use various productivity software products. In addition, this certificate will provide a way for professionals currently in the industry to update their productivity software skills and for new students to show progress in the CIT program.

### Programmer Certificate

The Programmer Certificate offers students the opportunity to earn a credential demonstrating programming competencies. This certificate consists of the core skills that students need to effectively develop programs using multiple computer languages. In addition, this certificate will provide a way for professionals currently in the industry to update their programming skills and for new students to show progress in the CIT program.

### Residential Fiber Optic Technician

The Residential Fiber Optic Technician certificate offers students the opportunity to earn a credential demonstrating installation and



troubleshooting in a fiber to the home setting. This certificate consists of skills needed for fiber to the home installations including fiber optic terminations, safety, and fusion splicing as well as basic computer and network configuration and troubleshooting skills. Additionally, students will be exposed to basic electrical concepts and complete an internship in the field.

### Security+ Prep Certificate

The Security+ Prep Certificate offers students the opportunity to earn a credential demonstrating the fundamentals of information security. This certificate consists of the core skills that students need to effectively build and maintain information security systems. In addition, this certificate will provide a way for professionals currently in the industry to update their computer networking skills and for new students to show progress in the CIT program. The Security+ Prep Certificate prepares students for the CompTIA Security+ exam which is recognized by the computer industry around the world.

### Social Media Specialist Certificate

The Social Media Specialist Certificate prepares students for careers as social media analysts to leverage social media tools to increase business awareness and presence.

### UNIX/Linux Administrator certificate

The UNIX/Linux Administrator certificate offers students the opportunity to certify proficiency using UNIX/Linux. This certificate consists of specialized UNIX/Linux courses that students need to effectively configure and maintain networks using the UNIX or Linux operating systems. In addition this certificate will provide a way for professionals currently in the industry to update their UNIX/Linux specialist skills.

### Video Game Designer Certificate

The Video Game Designer Certificate prepares students to design, develop, and market digital games and simulations.

### Web Server Administrator Certificate

The Web Server Administrator Certificate offers students the opportunity to earn a credential demonstrating web administration competencies. This certificate consists of the core skills that students need to effectively maintain web sites through network and web server administration. In addition, this certificate will provide a way for professionals currently in the industry to update their web administration skills and for new students to show progress in the CIT program.

### Web Programmer Certificate

The Web Programmer Certificate offers students the opportunity to earn a credential demonstrating web programming competencies. This certificate consists of the core skills that students need to effectively develop websites using web programming. In addition, this certificate will provide a way for professionals currently in the industry to update their web programming skills and for new students to show progress in the CIT program.

## Degree

- Computer and Information Technologies - AAS (p. 159)
  - Business Software and Support Track (p. 160)
  - Programming Track (p. 163)
  - Video Game Design Track (p. 163)
  - Cloud Computing Technologies Track (p. 160)
  - General Track (p. 160)

- Geospatial Technologies Track (p. 161)
- Informatics Track (p. 161)
- Information Security Track (p. 161)
- Internet Technologies Track (p. 162)
- Network Administration Track (p. 162)
- Network Technologies Track (p. 162)

## Certificates

- A+ Prep - Certificate (p. 164)
- Application Support Technician - Certificate (p. 164)
- AWS Cloud Architecting - Certificate (p. 164)
- Cisco Networking - Certificate (p. 164)
- Cisco Networking Enhanced - Certificate (p. 164)
- CIT Fundamentals - Certificate (p. 165)
- Computer Tech Basic - Certificate (p. 165)
- Computer Technician - Certificate (p. 165)
- Digital Forensics Specialist - Certificate (p. 165)
- Informatics Advanced - Certificate (p. 165)
- Informatics Generalist - Certificate (p. 166)
- Informatics Programming - Certificate (p. 166)
- Information Security Specialist - Certificate (p. 166)
- Microsoft Enterprise Administrator - Certificate (p. 166)
- Microsoft Network Administrator - Certificate (p. 167)
- Mobile Apps Developer - Certificate (p. 167)
- Net+ Prep - Certificate (p. 167)
- Network Technologies Specialist - Certificate (p. 167)
- Productivity Software Specialist - Certificate (p. 168)
- Programmer - Certificate (p. 168)
- Residential Fiber Optic Technician - Certificate (p. 168)
- Security+ Prep - Certificate (p. 168)
- Social Media Specialist - Certificate (p. 169)
- Unix/Linux Administrator - Certificate (p. 169)
- Video Game Designer - Certificate (p. 169)
- Web Programmer - Certificate (p. 169)
- Web Server Administrator - Certificate (p. 169)

## Course Choice Lists

### Approved Business Courses

Course	Title	Credits
ACC 201	Financial Accounting	3
ACT 101	Fundamentals of Accounting I	3
BAS 160	Introduction to Business	3
IFM 111	Client-side Informatics Software	3
IFM 128	Principles of Informatics	3
IFM 211	Collaboration Software	3
IFM 215	Information Systems Analysis	3
IFM 225	Advanced Informatics	3
Any business or informatics course approved by Program Coordinator		3

## Approved Cloud Computing Elective Courses

Course	Title	Credits
Approved Management Course		3
Approved Level I Programming Language Course		3
Approved Level II Programming Language Course		3
Approved Security Course		3
CIT 155	Web Page Development	3
CIT 157	Web Site Design and Production	3
CIT 171	SQL I	3
CIT 201	Information Storage Management	3
CIT 208	AWS Systems Operations	3

## Approved Management Courses

Course	Title	Credits
BAS 200	Small Business Management	3
BAS 274	Human Resource Management	3
BAS 283	Principles of Management	3
BAS 287	Supervisory Management	3
BAS 288	Personal and Organizational Leadership	3
MFG 256	Production Management	3
OST 275	Office Management	3
QMS 101	Introduction to Quality Systems	3
BAS 201	Customer Service Improvement Skills	3
Any management course approved by Program Coordinator		3

## Approved Level I Networking Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 160	Intro to Networking Concepts	4
CIT 161	Introduction to Networks	4

## Approved Network Elective Courses

Course	Title	Credits
CIT 167	Switching & Routing Essentials	4
CIT 209	Scaling Networks	4
CIT 212	Connecting and Scaling Networks	4
CIT 218	UNIX/Linux Net Infrastructure	3
CIT 219	Internet Protocols	3
CIT 260	Network Hardware Installation and Troubleshooting	3
CIT 261	MS Active Directory Services	3
CIT 262	MS Network Infrastructure	3
CIT 263	Advanced Topics in Microsoft Windows: (Topic)	3
CIT 264	Microsoft Server Management	3
CIT 267	UNIX/Linux Network Services	3
Or other Microsoft networking courses as approved by the CIT Program Coordinator		3

## Approved Security Elective Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 284	Computer Forensics	3
CIT 285	MS Windows OS Security	3
CIT 286	UNIX/Linux OS Security	3
CIT 287	Cisco OS Security	3
CIT 288	Network Security	3

## Approved Level I Programming Language Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 140	JavaScript I	3
CIT 141	PHP I	3
CIT 142	C++ I	3
CIT 143	C# I	3
CIT 144	Python I	3
CIT 145	Perl I	3
CIT 146	Swift I	3
CIT 147	Programming I: Language	3
CIT 148	Visual Basic I	3
CIT 149	Java I	3
CIT 171	SQL I	3
CS 115U	Introduction to Computer Programming	3
INF 120U	Elementary Programming	3
University Level I programming languages as approved by local Program Coordinator		3-4

## Approved Level II Programming Language Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 237	iOS Programming	3
CIT 238	Android Programming I	3
CIT 241	PHP II	3
CIT 242	C++ II	3
CIT 243	C# II	3
CIT 244	Python II	3
CIT 247	Programming II: Language	3
CIT 248	Visual Basic II	3
CIT 249	Java II	3
CIT 271	SQL II	3
CS 215U	Introduction to Program Design, Abstraction, and Problem Solving	4
INF 260U	Object Oriented Programming I	3
University Level II programming languages as approved by local Program Coordinator		3-4

## Approved Level III Programming Language Courses

Or other courses approved by Computer & Information Technologies Program Coordinator



Course	Title	Credits
CIT 277	Programming III: Language	3
CIT 278	Visual Basic III	3
CS 216U	Introduction to Software Engineering	3
University Level III programming languages as approved by local Program Coordinator		3-4

### Approved Level I Web Programming Language Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 141	PHP I	3
CIT 144	Python I	3
CIT 148	Visual Basic I	3
CIT 149	Java I	3

### Approved Level II Web Programming Language Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 241	PHP II	3
CIT 244	Python II	3
CIT 248	Visual Basic II	3
CIT 249	Java II	3

### Approved Social Media Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
CIT 151	Social Media I	3
CIT 152	Social Media Tools and Technologies	3
CIT 251	Social Media II	3

### Approved Video Game Design Electives

Course	Title	Credits
CIT 238	Android Programming I	3
Approved Level II Programming Language		3

### Approved CIT Technical Courses

Or other courses approved by Computer & Information Technologies Program Coordinator

Course	Title	Credits
Additional CIT Course(s)		3

Note: Students may not use one course to fulfill multiple requirements.

Students may choose CIT 290 Internship (3 credit hours) or COE 199 Cooperative Education: (Topic) (1-8 credit hours) for a maximum of 3 credit hours.

## Computer and Information Technologies - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101017089

**May be available completely online. Please check with your academic advisor.**

Students graduating with a degree or certificate in Computer & Information Technologies may only use a course with a grade of "C" or higher (or a "Pass" for Pass/Fail courses) to fulfill a core or track graduation requirement.

All approved CIT technical elective course choices can be viewed by clicking this link: (p. 157)

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following 11 options:		3-5
MAT 126	Technical Algebra and Trigonometry (or higher)	
MAT 146	Contemporary College Mathematics	
MAT 150	College Algebra	
MAT 155	Trigonometry	
MAT 160	Precalculus	
MAT 161	Statistics and Algebra	
MAT 165	Finite Mathematics and its Applications	
MAT 170	Brief Calculus with Applications	
MAT 171	Precalculus	
MAT 174	Calculus I	
MAT 175	Calculus I	
Social and Behavioral Science		3
Heritage or Humanities		3
Natural Sciences		3
General Education Subtotal		15-17
<b>Technical Core Requirements</b>		
CIT 105	Introduction to Computers	3
CIT 111	Computer Hardware and Software	4
CIT 120	Computational Thinking	3
CIT 170	Database Design Fundamentals	3
CIT 180	Security Fundamentals	3
Approved Level I Networking Course		4
Approved Level I Programming Language Course		3
CIT 290	Internship	1-3
or CIT 291	CIT Capstone	

or CIT 293	CIT Employability Studies
Technical Core Subtotal	24-26
General Education and Technical Core Subtotal	39-43
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>	

## Business Software and Support Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 110101717

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
CIT 130	Productivity Software	3
CIT 234	Advanced Productivity Software	3
CIT 236	Adv Data Organization Software	3
Approved Business or Management Course		3
Completion of a Business Software and Support Track Course Sequence in:		9
	Business Software Specialist (p. 160)	
	Computer Support (p. 160)	
	Software Support (p. 160)	
<b>Total Credits</b>		<b>60-64</b>

## Business Software Specialist Sequence

Course	Title	Credits
CIT 171	SQL I	3
Approved CIT Technical Course		3
Approved Business or Management Course		3
<b>Total Credits</b>		<b>9</b>

## Computer Support Sequence

Course	Title	Credits
CIT 232	Help Desk Operations	3
Approved CIT Technical Course		3
Approved CIT Technical Course		3
<b>Total Credits</b>		<b>9</b>

## Software Support Sequence

Course	Title	Credits
Select one of the following three options:		3
CIT 150	Internet Technologies	
CIT 155	Web Page Development	
CIT 157	Web Site Design and Production	
CIT 253	Data Driven Web Pages: (Topic)	3
Select one of the following two options:		3
ENG 102	Writing II	

Oral Communications Course	
<b>Total Credits</b>	<b>9</b>

## Cloud Computing Technologies Track

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 110101716

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
Approved Cloud Computing Elective Course		3
CIT 227	Introduction to UNIX/Linux Administration	3
CIT 262	MS Network Infrastructure	3
Completion of a Cloud Computing Technologies Track Course Sequence in one of the following:		12-13
	Amazon Web Services (p. 160)	
	Data Center Technologies (p. 160)	
<b>Total Credits</b>		<b>60-65</b>

## Amazon Web Services Sequence

Course	Title	Credits
CIT 206	Amazon Web Services Practitioner	3
CIT 207	Amazon Web Services Architecting	3
or CIT 208	AWS Systems Operations	
CIT 167	Switching & Routing Essentials	4
Approved CIT Elective		3
<b>Total Credits</b>		<b>13</b>

## Data Center Technologies Sequence

Course	Title	Credits
CIT 203	Introduction to Virtualization	3
CIT 204	VMware Optimize and Scale	3
CIT 205	Cloud Infrastructure and Services	3
Approved Networking Elective		3-4
<b>Total Credits</b>		<b>12-13</b>

## General Track

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 110101720

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
CIT Technical Electives <sup>1</sup>		21-25
<b>Total Credits</b>		<b>60-68</b>

<sup>1</sup> At least 12 credit hours must be at the 200-level, or other courses approved by the Program Coordinator. Students **must** meet with the Program Coordinator or designee and complete a study plan **prior** to beginning the General Track.

## Geospatial Technologies Track

**Offered at:** Bluegrass Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 110101718

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
CIT 125	Intro to Digital Maps	3
CIT 225	GIS Data Analysis	3
GIS 145	Remote Sensing	3
GIS 255	Geospatial Programming	3
GIS 260	Geospatial Web Mapping	3
CIT 229	Selected Topics in GIS	3
CIT 290	Internship	3
<b>Total Credits</b>		<b>60-64</b>

## Informatics Track

**Offered at:** Bluegrass Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 110101719

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
ENG 102	Writing II	3
Oral Communications Course		3
Select one of the following three options:		3
CIT 150	Internet Technologies	3
CIT 155	Web Page Development	
CIT 157	Web Site Design and Production	
CIT 249	Java II	3
or INF 260U	Object Oriented Programming I	
Completion of an Informatics Track Course Sequence in one of the following:		9-11
Business (p. 161)		3
Data Science (p. 161)		
Informatics Programming (p. 161)		
Total Credits		60-66

## Business Sequence

Course	Title	Credits
IFM 111	Client-side Informatics Software	3
IFM 128	Principles of Informatics	3
or INF 128U	Principles of Informatics	

Select one of the following six options: 3

IFM 211	Collaboration Software
IFM 225	Advanced Informatics
ACC 201	Financial Accounting
ACC 202	Managerial Accounting
ECO 201	Principles of Microeconomics
ECO 202	Principles of Macroeconomics

**Total Credits** 9

## Data Science Sequence

Course	Title	Credits
MAT 155	Trigonometry	3
MAT 174	Calculus I	4
or MA 113U	Calculus I	

Select one of the following four options: 3-4

CS 275U	Discrete Mathematics
STA 210	Statistics: A Force in Human Judgement
STA 220	Statistics
STA 296U	Statistical Methods and Motivations

**Total Credits** 10-11

## Informatics Programming Sequence

Course	Title	Credits
CIT 253	Data Driven Web Pages: (Topic)	3

Select one of the following three options: 3-4

CS 215U	Introduction to Program Design, Abstraction, and Problem Solving
CIT 242	C++ II
CIT 243	C# II

Select one of the following three options: 3

CS 216U	Introduction to Software Engineering
STA 210	Statistics: A Force in Human Judgement
STA 220	Statistics

**Total Credits** 9-10

## Information Security Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 110101712

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
CIT 182	Perimeter Defense	3
CIT 184	Attacks and Exploits	3
CIT 227	Introduction to UNIX/Linux Administration	3
Approved Network Elective Courses		6

Approved Security Elective Course	3
Approved CIT Technical Course(s)	3
<b>Total Credits</b>	<b>60-64</b>

## Internet Technologies Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 110101710

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
Select two of the following three options:		6
CIT 150	Internet Technologies	
CIT 155	Web Page Development	
CIT 157	Web Site Design and Production	
CIT 257	Applied Internet Technologies	3
or CIT 258	Internet Technologies Seminar	
Completion of an Internet Technologies Track Course Sequence in one of the following:		12
Web Programming (p. 162)		
Web Administration (p. 162)		
<b>Total Credits</b>		<b>60-64</b>

## Web Programming Sequence

Course	Title	Credits
Approved Level I Web Programming Language Course		3
Approved Level II Web Programming Language Course		3
CIT 171	SQL I	3
CIT 253	Data Driven Web Pages: (Topic)	3
<b>Total Credits</b>		<b>12</b>

## Web Administration Sequence

Course	Title	Credits
CIT 219	Internet Protocols	3
CIT 255	Web Server Administration	3
Select one of the following three options:		6
CIT 261 & CIT 262	MS Active Directory Services and MS Network Infrastructure	
CIT 262 & CIT 264	MS Network Infrastructure and Microsoft Server Management	
CIT 227 & CIT 228	Introduction to UNIX/Linux Administration and Advanced UNIX/Linux Administration	
<b>Total Credits</b>		<b>12</b>

## Network Administration Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College,

Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 110101708

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
Approved CIT Technical Courses		9-12
Network Administration Track Course Sequence in one of the following:		12
Microsoft Windows Administration (p. 162)		
Cisco Network Associate (p. )		
UNIX/Linux Platform (p. )		
<b>Total Credits</b>		<b>60-67</b>

## Microsoft Windows Administration Sequence

Course	Title	Credits
CIT 213	Microsoft Client Configuration	3
CIT 261	MS Active Directory Services	3
CIT 262	MS Network Infrastructure	3
CIT 264	Microsoft Server Management	3
<b>Total Credits</b>		<b>12</b>

## Cisco Networking Associate Sequence

Course	Title	Credits
CIT 167	Switching & Routing Essentials	4
CIT 209	Scaling Networks	4
CIT 212	Connecting and Scaling Networks	4
<b>Total Credits</b>		<b>12</b>

## UNIX/Linux Platform Sequence

Course	Title	Credits
CIT 227	Introduction to UNIX/Linux Administration	3
CIT 228	Advanced UNIX/Linux Administration	3
CIT 267	UNIX/Linux Network Services	3
CIT 286	UNIX/Linux OS Security	3
<b>Total Credits</b>		<b>12</b>

## Network Technologies Track

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 110101713

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
CIT 219	Internet Protocols	3

CIT 288	Network Security	3
Select 15-17 hours of Approved Network Technologies Courses. At least eight hours must be from a single platform and at least four hours must be from a different platform:		
Microsoft Platform (p. 163)		
Cisco Platform (p. 163)		
UNIX/Linux Platform (p. 163)		
Data Center Platform (p. 163)		
Security Platform (p. 163)		
<b>Total Credits</b>		<b>60-66</b>

## Microsoft Platform Sequence

Course	Title	Credits
CIT 213	Microsoft Client Configuration	3
CIT 261	MS Active Directory Services	3
CIT 262	MS Network Infrastructure	3
CIT 264	Microsoft Server Management	3
<b>Total Credits</b>		<b>12</b>

## CISCO Platform Sequence

Course	Title	Credits
CIT 167	Switching & Routing Essentials	4
CIT 209	Scaling Networks	4
CIT 212	Connecting and Scaling Networks	4
<b>Total Credits</b>		<b>12</b>

## UNIX/Linux Platform Sequence

Course	Title	Credits
CIT 227	Introduction to UNIX/Linux Administration	3
CIT 228	Advanced UNIX/Linux Administration	3
CIT 255	Web Server Administration	3
CIT 267	UNIX/Linux Network Services	3
CIT 286	UNIX/Linux OS Security	3
<b>Total Credits</b>		<b>15</b>

## Data Center Platform Sequence

Course	Title	Credits
CIT 201	Information Storage Management	3
CIT 203	Introduction to Virtualization	3
CIT 204	VMware Optimize and Scale	3
CIT 205	Cloud Infrastructure and Services	3
<b>Total Credits</b>		<b>12</b>

## Security Platform Sequence

Course	Title	Credits
CIT 182	Perimeter Defense	3
CIT 184	Attacks and Exploits	3
<b>Total Credits</b>		<b>6</b>

## Programming Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway

Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 110101709

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
Approved Level II Programming Language		3
Approved Level I, II, or III Programming Language		3
Approved CIT Technical Course(s)		3
Completion of a Programming Track Course Sequence in one of the following:		12
Information Systems (p. 163)		
Programming Software Development (p. 163)		
<b>Total Credits</b>		<b>60-64</b>

## Information Systems Sequence

Course	Title	Credits
CIT 171	SQL I	3
Approved CIT Technical Courses		3
Approved Management or Business Course		3
Approved Business Course		3
<b>Total Credits</b>		<b>12</b>

## Programming Software Development Sequence

Course	Title	Credits
Approved Level I Programming Language		3
Approved Level II Programming Language		3
Select one of the following three options:		3
CIT 150	Internet Technologies	
CIT 155	Web Page Development	
CIT 157	Web Site Design and Production	
CIT 253	Data Driven Web Pages: (Topic)	3
<b>Total Credits</b>		<b>12</b>

## Video Game Design Track

**Offered at:** Bluegrass Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 110101715

Course	Title	Credits
General Education and Technical Core Subtotal		39-43
CIT/IMD 124	Introduction to Game Development	3
CIT/IMD 221	Computer Graphics	3
CIT/IMD 222	3D Modeling for Video Games	3
CIT/IMD 223	3D Animation for Video Games	3
CIT/IMD 273	Game Production	3
CIT/IMD 274	Seminar in Game Development	3
Video Game Design Elective		3
<b>Total Credits</b>		<b>60-64</b>



## A+ Prep - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013529

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 111	Computer Hardware and Software	4
<b>Total Credits</b>		<b>4</b>

## Application Support Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013329

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 111	Computer Hardware and Software	4
CIT 130	Productivity Software	3
CIT 232	Help Desk Operations	3
CIT 234	Advanced Productivity Software	3
CIT 236	Adv Data Organization Software	3
<b>Total Credits</b>		<b>16</b>

## AWS Cloud Architecting - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013569

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
CIT 167	Switching & Routing Essentials	4
CIT 206	Amazon Web Services Practitioner	3
CIT 207	Amazon Web Services Architecting	3
or CIT 208	AWS Systems Operations	
CIT 227	Introduction to UNIX/Linux Administration	3
CIT 262	MS Network Infrastructure	3
Approved Cloud Computing Elective Course		3
<b>Total Credits</b>		<b>19</b>

## Cisco Networking - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013359

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 161	Introduction to Networks	4
CIT 167	Switching & Routing Essentials	4
CIT 212	Connecting and Scaling Networks	4
CIT Technical Elective		3
Select one of the following two options:		3
CIT Networking Elective		
CIT Security Elective		
<b>Total Credits</b>		<b>18</b>

## Cisco Networking Enhanced - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013379

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
CIT 144	Python I	3
CIT 161	Introduction to Networks	4
CIT 167	Switching & Routing Essentials	4
CIT 180	Security Fundamentals	3
CIT 212	Connecting and Scaling Networks	4
CIT 227	Introduction to UNIX/Linux Administration	3
<b>Total Credits</b>		<b>21</b>

## CIT Fundamentals - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013309

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 111	Computer Hardware and Software	4
CIT 120	Computational Thinking	3
CIT 170	Database Design Fundamentals	3
CIT 180	Security Fundamentals	3
Approved Level I Networking Course		4
Approved Level I Programming Language		3
<b>Total Credits</b>		<b>23</b>

## Computer Tech Basic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013319

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 111	Computer Hardware and Software	4

Approved Level I Networking Course	4
<b>Total Credits</b>	<b>11</b>

## Computer Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013289

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 111	Computer Hardware and Software	4
Approved Level I Networking Course		4
CIT 180	Security Fundamentals	3
<b>Total Credits</b>		<b>14</b>

## Digital Forensics Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Hazard Community and Technical College, Henderson Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013459

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 111	Computer Hardware and Software	4
CIT 160	Intro to Networking Concepts	4
or CIT 161	Introduction to Networks	
CIT 180	Security Fundamentals	3
CRJ 204	Criminal Investigations	3
CIT 284	Computer Forensics	3
<b>Total Credits</b>		<b>20</b>

## Informatics Advanced - Certificate

**Offered at:** Bluegrass Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013509**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 149	Java I	3
or INF 120U	Elementary Programming	
IFM 211	Collaboration Software	3
IFM 225	Advanced Informatics	3
<b>Total Credits</b>		<b>9</b>

## Informatics Generalist - Certificate

**Offered at:** Bluegrass Community and Technical College, West Kentucky Community and Technical College**Program Plan Number:** 1101013499**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 120	Computational Thinking	3
CIT 130	Productivity Software	3
CIT 170	Database Design Fundamentals	3
or INF 282U	Introduction to Databases	
IFM 215	Information Systems Analysis	3
<b>Total Credits</b>		<b>15</b>

## Informatics Programming - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Somerset Community College**Program Plan Number:** 1101013489**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 120	Computational Thinking	3
CIT 170	Database Design Fundamentals	3
or INF 282U	Introduction to Databases	

Select one of the following six Informatics Programming Language Pairs: 6-7

INF 120U & INF 260U	Elementary Programming and Object Oriented Programming I	
CIT 149 & CIT 249	Java I and Java II	
CIT 142 & CIT 242	C++ I and C++ II	
CS 115U & CS 215U	Introduction to Computer Programming and Introduction to Program Design, Abstraction, and Problem Solving	

CIT 148 & CIT 248	Visual Basic I and Visual Basic II	
CIT 143 & CIT 243	C# I and C# II	

**Total Credits** 12-13

## Information Security Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College**Program Plan Number:** 1101013339**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
	Approved Level I Networking Course	4
CIT 180	Security Fundamentals	3
CIT 182	Perimeter Defense	3
CIT 148	Visual Basic I	3
	Approved Security/Network Elective Courses	6
<b>Total Credits</b>		<b>19</b>

## Microsoft Enterprise Administrator - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College**Program Plan Number:** 1101013419**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
	Approved Level I Networking Course	4
CIT 213	Microsoft Client Configuration	3
CIT 261	MS Active Directory Services	3
CIT 262	MS Network Infrastructure	3
CIT 264	Microsoft Server Management	3

Approved CIT Technical Course	6
<b>Total Credits</b>	<b>22</b>

## Microsoft Network Administrator - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013349

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Approved Level I Networking Course		4
CIT 213	Microsoft Client Configuration	3
CIT 261	MS Active Directory Services	3
CIT 262	MS Network Infrastructure	3
CIT 264	Microsoft Server Management	3
Approved CIT Technical Course		3
<b>Total Credits</b>		<b>19</b>

## Mobile Apps Developer - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013559

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
CIT 105	Introduction to Computers	3
CIT 120	Computational Thinking	3
<i>Sequence 1</i>		
CIT 149	Java I	3
CIT 238	Android Programming I	3
<i>Sequence 2</i>		
CIT 146	Swift I	3

CIT 237	iOS Programming	3
<b>Total Credits</b>		<b>18</b>

## Net+ Prep - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013539

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 160	Intro to Networking Concepts	4
or CIT 161	Introduction to Networks	
<b>Total Credits</b>		<b>4</b>

## Network Technologies Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013369

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
CIT 219	Internet Protocols	3
CIT 288	Network Security	3
Select 15 hours from the following platforms listed below. At least eight hours must be from a single platform and at least four hours must be from a different platform:		15
Microsoft Platform (p. 167)		
Cisco Platform (p. 168)		
Unix/Linux Platform (p. 168)		
Data Center Platform (p. 168)		
<b>Total Credits</b>		<b>21</b>

## Microsoft Platform

Course	Title	Credits
CIT 213	Microsoft Client Configuration	3
CIT 261	MS Active Directory Services	3

CIT 262	MS Network Infrastructure	3
CIT 264	Microsoft Server Management	3
Other Microsoft networking courses as approved by local Program coordinator		

## Cisco Platform

Course	Title	Credits
CIT 167	Switching & Routing Essentials	4
CIT 209	Scaling Networks	4
CIT 212	Connecting and Scaling Networks	4

## UNIX/Linux Platform

Course	Title	Credits
CIT 227	Introduction to UNIX/Linux Administration	3
CIT 228	Advanced UNIX/Linux Administration	3
CIT 255	Web Server Administration	3

## Data Center Platform

Course	Title	Credits
CIT 201	Information Storage Management	3
CIT 203	Introduction to Virtualization	3
CIT 204	VMware Optimize and Scale	3
CIT 205	Cloud Infrastructure and Services	3

## Productivity Software Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013299

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 130	Productivity Software	3
CIT 234	Advanced Productivity Software	3
CIT 236	Adv Data Organization Software	3
<b>Total Credits</b>		<b>12</b>

## Programmer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College,

Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013429

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 120	Computational Thinking	3
Approved Level I Programming Language		3
Approved Level II Programming Language		3
Approved Level I, II, or III Programming Language		3
<b>Total Credits</b>		<b>12</b>

## Residential Fiber Optic Technician - Certificate

**This program is not currently offered at a KCTCS College.**

**Program Plan Number:** 1101013579

**Curriculum Effective Spring Semester**

Course	Title	Credits
CIT 111	Computer Hardware and Software	4
CIT 161	Introduction to Networks	4
CIT 290	Internship	3
EET 110	Voice & Data Installer Level I	4
EET 116	Fiber Optics Systems	3
<b>Total Credits</b>		<b>18</b>

## Security+ Prep - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013549

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 180	Security Fundamentals	3
<b>Total Credits</b>		<b>3</b>



## Social Media Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013469

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
BAS 160	Introduction to Business	3
BAS 282	Principles of Marketing	3
CIT 105	Introduction to Computers (or Digital Literacy Competency)	0-3
CIT 151	Social Media I	3
CIT 152	Social Media Tools and Technologies	3
CIT 155	Web Page Development	3
CIT 251	Social Media II	3
<b>Total Credits</b>		<b>18-21</b>

## Unix/Linux Administrator - Certificate

**This program is not currently offered at a KCTCS College.**

**Program Plan Number:** 1101013589

**Curriculum Effective Spring Semester**

Course	Title	Credits
CIT 227	Introduction to UNIX/Linux Administration	3
CIT 228	Advanced UNIX/Linux Administration	3
CIT 255	Web Server Administration	3
CIT 267	UNIX/Linux Network Services	3
CIT 286	UNIX/Linux OS Security	3
Approved CIT Technical Course		3-4
<b>Total Credits</b>		<b>18-19</b>

## Video Game Designer - Certificate

**Offered at:** Bluegrass Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1101013519

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
CIT 105	Introduction to Computers	3
CIT 120	Computational Thinking	3
Approved Level I Web Programming Language		3
CIT/IMD 124	Introduction to Game Development	3
CIT/IMD 221	Computer Graphics	3

CIT/IMD 222	3D Modeling for Video Games	3
CIT/IMD 223	3D Animation for Video Games	3
CIT/IMD 273	Game Production	3
CIT/IMD 274	Seminar in Game Development	3
Video Game Design Elective		3
<b>Total Credits</b>		<b>30</b>

## Web Programmer - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013439

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
CIT 120	Computational Thinking	3
Select two of the following three options:		6
CIT 150	Internet Technologies	
CIT 155	Web Page Development	
CIT 157	Web Site Design and Production	
CIT 170	Database Design Fundamentals	3
CIT 171	SQL I	3
CIT 253	Data Driven Web Pages: (Topic)	3
Approved Level I Web Programming Language		3
Approved Level II Web Programming Language		3
<b>Total Credits</b>		<b>24</b>

## Web Server Administrator - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1101013449

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
CIT 120	Computational Thinking	3
Select two of the following three options:		6
CIT 150	Internet Technologies	
CIT 155	Web Page Development	
CIT 157	Web Site Design and Production	
CIT 219	Internet Protocols	3
CIT 255	Web Server Administration	3
Select one of the following three options:		6
CIT 262 & CIT 261	MS Network Infrastructure and MS Active Directory Services	
CIT 262 & CIT 264	MS Network Infrastructure and Microsoft Server Management	
CIT 227 & CIT 228	Introduction to UNIX/Linux Administration and Advanced UNIX/Linux Administration	
<b>Total Credits</b>		<b>21</b>

## Computer Engineering Technology

The Computer Engineering Technology program will prepare computer engineering technicians to pursue careers in the design and maintenance of digital systems, network development and testing, and basic database programming and maintenance. Students in this program study networking and computer systems fundamentals, digital circuits design and analysis, programming in multiple computer languages, and database design.

### Degree

- Computer Engineering Technology- AAS (p. 170)

## Computer Engineering Technology- AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1512017019

Course	Title	Credits
ENG 101	Writing I	3
MAT 170	Brief Calculus with Applications	3
Social and Behavioral Course		3
Heritage Course		3
CHE 170	General College Chemistry I	4
<b>AAS General Education Course Total</b>		<b>16</b>
ENG 102	Writing II	3
Oral Communications		3
STA 296U	Statistical Methods and Motivations	3
MAT 155	Trigonometry <sup>1</sup>	3
or MAT 171	Precalculus	
Social and Behavioral Course <sup>2</sup>		3
Humanities Course		3
PHY 201	College Physics I	4
PHY 202	College Physics I Laboratory	1
<b>Additional General Education Course Total</b>		<b>23</b>
CIT 105	Introduction to Computers	0-3

CIT 111	Computer Hardware and Software	4
CIT 120	Computational Thinking	3
CIT 161	Introduction to Networks	4
or CIT 160	Intro to Networking Concepts	
CIT 170	Database Design Fundamentals	3
CS 115U	Introduction to Computer Programming	3
CS 215U	Introduction to Program Design, Abstraction, and Problem Solving	4
ELT 110	Circuits I	5
ELT 120	Digital I	3
<b>Technical Course Total</b>		<b>29-32</b>
<b>Total Credits</b>		<b>68-71</b>

<sup>1</sup> Students who have not completed MAT 150 may take MAT 171- Precalculus in place of MAT 155.

<sup>2</sup> Two Social Behavioral courses must be taken from different disciplines.

## Computerized Manufacturing and Machining

Work activities in machine shop involve applying knowledge of machine capabilities, the properties of materials, and shop practices to set-up and operate various machines. Skills that are needed to position work pieces, adjust machines, and verify the accuracy of machine functions and finish products are taught by classroom instruction, demonstration, and hands-on experience.

Progression in the Computerized Manufacturing & Machining program is contingent upon the achievement of a grade of "C" or higher in each technical course.

### Degrees

- Computerized Manufacturing & Machining - AAS (p. 170)

### Diplomas

- CNC Machinist - Diploma (p. 171)
- Machinist - Diploma (p. 172)

### Certificates

- CNC Machining & Waterjet Technology - Certificate (p. 172)
- CNC Operator I- Certificate (p. 173)
- CNC Operator II- Certificate (p. 173)
- Exploratory Machining I - Certificate (p. 173)
- Machine Tool Operator I - Certificate (p. 173)
- Machine Tool Operator II - Certificate (p. 174)
- Tool & Die Apprentice - Certificate (p. 174)

## Computerized Manufacturing & Machining - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College,

Maysville Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805037019

Progression in the Computerized Manufacturing & Machining program is contingent upon the achievement of a grade of "C" or higher in each technical course.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
MAT 116	Technical Mathematics	3
or MAT 126	Technical Algebra and Trigonometry	
Heritage/Humanities		3
Natural Sciences		3
Social/Behavior Sciences		3
Subtotal		15
Electives (Co-op or Practicum)		1
Subtotal		1
<b>Technical</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following two options:		6
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
CMM 118	Metrology/Control Charts	2
Select one of the following two options:		6
CMM 120 & CMM 122	Applied Machining I and Applied Machining II	
CMM 124	Applied Machining	
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	
CMM 138	Intro. to Programming & CNC Machines	
Select one of the following two options:		6
CMM 210 & CMM 212	Industrial Machining I and Industrial Machining II	
CMM 214	Industrial Machining	
Select one of the following two options:		6
CMM 220 & CMM 222	Advanced Industrial Machining I and Advanced Industrial Machining II	
CMM 224	Advanced Industrial Machining	
Select one of the following three options:		6
CMM 2301 & CMM 2302	Introduction to Conversational Programming and Conversational Editing and Subroutines	
CMM 230	Conversational Programming	
CMM 234	CNC Machines & Coding Practices	
Select one of the following three options:		6
CMM 2401 & CMM 2402	Introduction to 3D Code Sequencing and Tool Path Production and Advanced 3D Code Sequencing and Macro Systems	
CMM 240	Introduction to 3-D Programming	

CMM 244	Advance Programming/Setup Practices	
Select one of the following two options:		4
BRX 110 & BRX 210	Basic Blueprint Reading for Machinist and Mechanical Blueprint Reading	
BRX 112	Blueprint Reading for Machinist	
Subtotal		48-51
<b>Total Credits</b>		<b>64-67</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a computer/digital literacy course.

## CNC Machinist - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805034069

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Heritage/Humanities		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavior Science		
Natural Science		
Quantitative Reasoning		
Subtotal		6
Electives (Co-op or Practicum)		1
Subtotal		1
<b>Technical</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following two options:		6
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
CMM 118	Metrology/Control Charts	2
Select one of the following two options:		6
CMM 120 & CMM 122	Applied Machining I and Applied Machining II	
CMM 124	Applied Machining	
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	

CMM 138	Intro. to Programming & CNC Machines	
Select one of the following two options:		6
CMM 210 & CMM 212	Industrial Machining I and Industrial Machining II	
CMM 214	Industrial Machining	
Select one of the following two options:		6
CMM 220 & CMM 222	Advanced Industrial Machining I and Advanced Industrial Machining II	
CMM 224	Advanced Industrial Machining	
Select one of the following three options:		6
CMM 2301 & CMM 2302	Introduction to Conversational Programming and Conversational Editing and Subroutines	
CMM 230	Conversational Programming	
CMM 234	CNC Machines & Coding Practices	
Select one of the following three options:		6
CMM 2401 & CMM 2402	Introduction to 3D Code Sequencing and Tool Path Production and Advanced 3D Code Sequencing and Macro Systems	
CMM 240	Introduction to 3-D Programming	
CMM 244	Advance Programming/Setup Practices	
Select one of the following two options:		4
BRX 110 & BRX 210	Basic Blueprint Reading for Machinist and Mechanical Blueprint Reading	
BRX 112	Blueprint Reading for Machinist	
Subtotal		48-51
<b>Total Credits</b>		<b>55-58</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Machinist - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805034079

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Heritage/Humanities	
<i>Area 2</i>		
Select one of the following three options:		3
	Social/Behavior Science	
	Natural Science	
	Quantitative Reasoning	

Subtotal		6
Electives (Co-op or Practicum)		1
Subtotal		1
<b>Technical</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following three options:		6
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
CMM 118	Metrology/Control Charts	2
Select one of the following two options:		6
CMM 120 & CMM 122	Applied Machining I and Applied Machining II	
CMM 124	Applied Machining	
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	
CMM 138	Intro. to Programming & CNC Machines	
Select one of the following two options:		6
CMM 210 & CMM 212	Industrial Machining I and Industrial Machining II	
CMM 214	Industrial Machining	
Select one of the following two options:		6
CMM 220 & CMM 222	Advanced Industrial Machining I and Advanced Industrial Machining II	
CMM 224	Advanced Industrial Machining	
Select one of the following two options:		4
BRX 110 & BRX 210	Basic Blueprint Reading for Machinist and Mechanical Blueprint Reading	
BRX 112	Blueprint Reading for Machinist	
Subtotal		36-39
<b>Total Credits</b>		<b>43-46</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## CNC Machining & Waterjet Technology - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4805033189

Course	Title	Credits
CMM 138	Intro. to Programming & CNC Machines	6
CMM 234	CNC Machines & Coding Practices	6
CMM 244	Advance Programming/Setup Practices	6
<b>Total Credits</b>		<b>18</b>

## CNC Operator I- Certificate

**Offered at:** Bluegrass Community and Technical College, Gateway Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4805033139

Course	Title	Credits
CMM 110	Fundamentals of Machine Tools - A	3
CMM 118	Metrology/Control Charts	2
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	
CMM 138	Intro. to Programming & CNC Machines	
Select one of the following three options:		6
CMM 2301 & CMM 2302	Introduction to Conversational Programming and Conversational Editing and Subroutines	
CMM 230	Conversational Programming	
CMM 234	CNC Machines & Coding Practices	
BRX 110	Basic Blueprint Reading for Machinist	2
<b>Total Credits</b>		<b>19</b>

## CNC Operator II- Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805033129

Course	Title	Credits
Select one of the following two options:		6
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
CMM 118	Metrology/Control Charts	2
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	
CMM 138	Intro. to Programming & CNC Machines	
Select one of the following three options:		6
CMM 2301 & CMM 2302	Introduction to Conversational Programming and Conversational Editing and Subroutines	
CMM 230	Conversational Programming	
CMM 234	CNC Machines & Coding Practices	
BRX 110	Basic Blueprint Reading for Machinist	2-4
or BRX 112	Blueprint Reading for Machinist	
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following two options:		3

MAT 116	Technical Mathematics
MAT 126	Technical Algebra and Trigonometry (or Higher)
<hr/>	
<b>Total Credits</b>	<b>25-30</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Exploratory Machining I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805033199

Course	Title	Credits
<b>Options</b>		
Select one of the following five options:		11-12
<i>Option 1</i>		
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
Electives (Technical or General Education) - 5 credits		
<i>Option 2</i>		
CMM 114	Fundamentals of Machine Tools	
Electives (Technical or General Education) - 5 credits		
<i>Option 3</i>		
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
Elective (Technical or General Education) - 6 credits		
<i>Option 4</i>		
CMM 134	Manual Programming CAD/CAM/CNC	
Elective (Technical or General Education) - 6 credits		
<i>Option 5</i>		
CMM 138	Intro. to Programming & CNC Machines	
Elective (Technical or General Education) - 6 credits		
<b>Total Credits</b>		<b>11-12</b>

## Machine Tool Operator I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College



**Program Plan Number:** 4805033109

Course	Title	Credits
Select one of the following two options:		6
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	
CMM 138	Intro. to Programming & CNC Machines	
BRX 110 or BRX 112	Basic Blueprint Reading for Machinist Blueprint Reading for Machinist	2-4
Select one of the following three options:		3
Social/Behavioral Science		
Natural Science		
Quantitative Reasoning		
<b>Total Credits</b>		<b>17-19</b>

## Machine Tool Operator II - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805033119

Course	Title	Credits
Select one of the following two options:		6
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
CMM 118	Metrology/Control Charts	2
Select one of the following two options:		6
CMM 120 & CMM 122	Applied Machining I and Applied Machining II	
CMM 124	Applied Machining	
Select one of the following three options:		6
CMM 130 & CMM 132	Manual Programming and CAD/CAM/CNC	
CMM 134	Manual Programming CAD/CAM/CNC	
CMM 138	Intro. to Programming & CNC Machines	
BRX 110 or BRX 112	Basic Blueprint Reading for Machinist Blueprint Reading for Machinist	2-4
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following three options:		3
Social/Behavioral Science		
Natural Science		

Quantitative Reasoning

**Total Credits** **25-30**

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Tool & Die Apprentice - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4805033130

Course	Title	Credits
CMM 150 or CMM 110	Shop Theory Fundamentals of Machine Tools - A	2-3
CMM 118	Metrology/Control Charts	2
CMM 151 or CMM 112	Machinery's Handbook and Metallurgy Fundamentals of Machine Tools - B	3
CMM 152 or CMM 120	Jigs, Fixtures and Gaging Applied Machining I	3
CMM 153	Mold Theory	3
CMM 154	Die Theory	3
CMM 130	Manual Programming	3
CMM 132	CAD/CAM/CNC	3
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 210	Mechanical Blueprint Reading	2
MAT 116	Technical Mathematics	3
Select one of the following three options:		0-3
WLD 151	Basic Welding A	
Digital Literacy <sup>1</sup>		
IEX 295	Special Problems III	
<b>Total Credits</b>		<b>29-33</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a computer/digital literacy course.

## Construction Technology

The Construction Technology program is designed to prepare students for entry level positions in the construction industry. Residential and light commercial construction applications are taught. This program includes instructional units in blueprint reading, building site layout procedures, foundation systems, light framing construction methods, exterior and interior finish systems, concrete forming systems and construction safety. Units of instruction are designed to include lecture and practical experience in the lab or on-site projects. This program also offers an excellent prerequisite for students that plan to pursue a career in areas such as construction management, civil engineering or architectural design.

The Green Building Technology certificate familiarizes students with the principles of green building technologies and methods of sustainable construction. Emphasis is placed on green materials used in the construction of buildings along with alternative and/or renewable energy

systems. Covers both Leadership in Energy and Environmental Design (LEED) and the National Green Building Standard's rating systems for the certification process of green buildings.

Progression in the Construction Technology Program is contingent upon achievement of a grade of "C" or better in each technical and mathematics course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Degrees

- Construction Technology - AAS (p. 175)

## Diplomas

- Construction Carpenter - Diploma (p. 175)
- Finish Carpenter - Diploma (p. 176)

## Certificates

- Acoustical Carpenter - Certificate (p. 176)
- Basic Carpenter - Certificate (p. 176)
- Carpenter Helper - Certificate (p. 177)
- Construction Forms Helper - Certificate (p. 177)
- Dry Waller - Certificate (p. 177)
- Green Building Technology - Certificate (p. 177)
- NCCER Skills Standard Level I - Certificate (p. 178)
- Painter, Interior Finish - Certificate (p. 178)
- Painter, Paper Hanger - Certificate (p. 178)
- Residential Carpenter - Certificate (p. 178)
- Residential Roofer - Certificate (p. 179)
- Residential Site Layout Assistant - Certificate (p. 179)
- Rough Carpenter - Certificate (p. 179)

## Construction Technology - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 4602017029

Progression in the Construction Technology Program is contingent upon achievement of a grade of "C" or better in each technical and mathematics course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education Requirements</b>		
Written Communication		3
Select one of the following two options:		3
MAT 105	Business Mathematics	
	Higher level Quantitative Reasoning course	
Social/Behavioral Sciences		3
Heritage/Humanities		3
Natural Sciences		3
Oral Communications		3
Subtotal		18
<b>Technical Requirements</b>		
Digital Literacy or demonstrated competency <sup>1</sup>		0-3
BRX 220	Blueprint Reading for Construction	3

CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
CAR 200	Light Frame Construction III	3
CAR 201	Light Frame Const. III-Lab	2
CAR 298	Practicum in Construction	2
or CAR 299	Co-op in Construction	
ISX 100	Industrial Safety	3
Technical Electives		10
Subtotal		42-45
<b>Total Credits</b>		<b>60-63</b>

<sup>1</sup> Digital Literacy must be demonstrated either by competency exam or by completing an approved digital literacy course.

## Technical Electives

**(This list is not all inclusive. Other courses [technical or general education] may be taken as approved by Construction Technology instructor.)**

Course	Title	Credits
BRX 120	Basic Blueprint Reading	3
CAR 150	Concrete Formwork	3
CAR 151	Concrete Formwork-Lab	2
CAR 198	Special Topics in Carpentry	1-6
CAR 240	Light Frame Construction IV	3
CAR 241	Light Frame Const. IV-Lab	2

## Construction Carpenter - Diploma

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602014019

Course	Title	Credits
<b>General Education Requirements</b>		
<b>Area 1</b>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
<b>Area 2</b>		
Select one of the following three options:		3
	Social/Behavioral Sciences <sup>1</sup>	
	Natural Sciences	

Quantitative Reasoning		
Subtotal		6
Technical Requirements		
Digital Literacy course or demonstrated competency <sup>2</sup>		0-3
BRX 220	Blueprint Reading for Construction	3
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
CAR 200	Light Frame Construction III	3
CAR 201	Light Frame Const. III-Lab	2
CAR 298	Practicum in Construction	2-4
or CAR 299	Co-op in Construction	
ISX 100	Industrial Safety	3
Technical Electives		10
Subtotal		42-47
Total Credits		48-53

<sup>1</sup> WPP 200 Workplace Principles (3 credit hours) or EFM 100 Personal Financial Management (3 credit hours) may be taken for 3 credit hours of Social/Behavioral Sciences to meet the Diploma General Education requirements.

<sup>2</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Technical Electives

(This list is not all inclusive. Other courses [technical or general education] may be taken as approved by Carpentry instructor.)

Course	Title	Credits
BRX 120	Basic Blueprint Reading	3
CAR 150	Concrete Formwork	3
CAR 151	Concrete Formwork-Lab	2
CAR 198	Special Topics in Carpentry	1-6
CAR 240	Light Frame Construction IV	3
CAR 241	Light Frame Const. IV-Lab	2

## Finish Carpenter - Diploma

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 4602014029

Course	Title	Credits
<b>General Education Requirements</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
<i>Area 2</i>		

Select one of the following three options:		3
	Social/Behavioral Sciences <sup>1</sup>	
	Natural Sciences	
	Quantitative Reasoning	
Subtotal		6
<b>Technical Requirements</b>		
Digital Literacy course <b>or</b> demonstrated competency <sup>2</sup>		0-3
INF 105		2
INF 111		2
INF 115		2
INF 121		2
INF 125	Introduction to Drywall	2
INF 131	Advanced Drywall	2
INF 205		3
INF 211		2
INF 220		2
INF 298		2-4
or CAR 299	Co-op in Construction	
Subtotal		21-26
<b>Total Credits</b>		<b>27-32</b>

<sup>1</sup> WPP 200 Workplace Principles (3 credit hours) or EFM 100 Personal Financial Management (3 credit hours) may be taken for 3 credit hours of Social/Behavioral Sciences to meet the Diploma General Education requirements.

<sup>2</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Acoustical Carpenter - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4602013119

Course	Title	Credits
INF 205		3
INF 211		2
Technical Electives		6
<b>Total Credits</b>		<b>11</b>

## Basic Carpenter - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013139

Course	Title	Credits
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1

Electives (Any five additional credits, program or otherwise)	5
<b>Total Credits</b>	<b>9</b>

## Carpenter Helper - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013109

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
<b>Total Credits</b>		<b>17</b>

## Construction Forms Helper - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013029

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 150	Concrete Formwork	3
CAR 151	Concrete Formwork-Lab	2
Suggested Technical Electives		6
<b>Total Credits</b>		<b>18</b>

## Suggested Technical Electives

(This list is not all inclusive. Other courses [technical or general education] may be taken as approved by Construction Technology Program Coordinator.

Course	Title	Credits
BRX 120	Basic Blueprint Reading	3
ISX 100	Industrial Safety	3
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 150	Concrete Formwork	3

CAR 151	Concrete Formwork-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
CAR 198	Special Topics in Carpentry	1-6
CAR 200	Light Frame Construction III	3
CAR 201	Light Frame Const. III-Lab	2
CAR 240	Light Frame Construction IV	3
CAR 241	Light Frame Const. IV-Lab	2
DLC 101	Digital Literacy	3

## Suggested General Education Electives

Course	Title	Credits
TEC 200	Technical Communications <sup>1</sup>	3
COM 181	Basic Public Speaking	3
COM 252	Introduction to Interpersonal Communication	3
MAT 105	Business Mathematics	3
MAT 110	Applied Mathematics	3
MAT 116	Technical Mathematics	3
PHX 150	Introductory Physics <sup>1</sup>	3
EFM 100	Personal Financial Management <sup>1</sup>	3
WPP 200	Workplace Principles <sup>1</sup>	3

<sup>1</sup> May be used to fill diploma general education requirements only.

## Dry Waller - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4602013039

Course	Title	Credits
INF 125	Introduction to Drywall	2
INF 131	Advanced Drywall	2
Technical Electives		4
<b>Total Credits</b>		<b>8</b>

## Green Building Technology - Certificate

**Offered at:** Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013159

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
CAR 270	Green Building	3
CAR 126	Intro to Construction	3

CAR 127	Intro to Construction - Lab	1
Suggested Technical Electives		10
<b>Total Credits</b>		<b>20</b>

## Suggested Technical Electives

Select a minimum of 10 credit hours. (This list is not all inclusive. Other courses may be taken as approved by Construction Technology Instructor.)

Course	Title	Credits
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
CAR 200	Light Frame Construction III	3
CAR 201	Light Frame Const. III-Lab	2

## NCCER Skills Standard Level I - Certificate

**Offered at:** Hazard Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013169

Course	Title	Credits
Select one of the following two options:		3
BRX 220	Blueprint Reading for Construction	3
BRX 2201 & BRX 2202	Basic Construction Prints and Construction Blueprints	
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
Select one of the following:		2-5
CAR 2001 & CAR 2011	Light Frame Construction III - Interior and Light Frame Construction III Lab Interior	2
CAR 2002 & CAR 2012	Light Frame Construction III - Exterior and Light Frame Construction III Lab Exterior	
CAR 200 & CAR 201	Light Frame Construction III and Light Frame Const. III-Lab	
CAR 299	Co-op in Construction	2
Select one of the following two options:		3
ISX 100	Industrial Safety	24-27
Approved Safety course by Program Coordinator		
Total Credits		24-27

## Painter, Interior Finish - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4602013049

Course	Title	Credits
INF 105		2
INF 111		2
Technical Electives		2
<b>Total Credits</b>		<b>6</b>

## Painter, Paper Hanger - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4602013129

Course	Title	Credits
INF 105		2
INF 111		2
INF 115		2
INF 121		2
<b>Total Credits</b>		<b>8</b>

## Residential Carpenter - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013059

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
CAR 200	Light Frame Construction III	3
CAR 201	Light Frame Const. III-Lab	2
CAR 240	Light Frame Construction IV	3
CAR 241	Light Frame Const. IV-Lab	2
<b>Total Credits</b>		<b>32</b>



## Residential Roofer - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013069

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
<b>Total Credits</b>		<b>12</b>

## Residential Site Layout Assistant - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013079

Course	Title	Credits
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
Suggested Technical Electives		6
<b>Total Credits</b>		<b>15</b>

## Suggested Technical Electives

(This list is not all inclusive. Other courses (technical or general education) may be taken as approved by Construction Technology Program Coordinator.

Course	Title	Credits
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
ISX 100	Industrial Safety	3
CAR 150	Concrete Formwork	3
CAR 151	Concrete Formwork-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
CAR 198	Special Topics in Carpentry	1-6

CAR 200	Light Frame Construction III	3
CAR 201	Light Frame Const. III-Lab	2
CAR 240	Light Frame Construction IV	3
CAR 241	Light Frame Const. IV-Lab	2
DLC 101	Digital Literacy	3

## Suggested General Education Electives

Course	Title	Credits
TEC 200	Technical Communications <sup>1</sup>	3
COM 181	Basic Public Speaking	3
COM 252	Introduction to Interpersonal Communication	3
MAT 105	Business Mathematics	3
MAT 110	Applied Mathematics	3
MAT 116	Technical Mathematics	3
PHX 150	Introductory Physics <sup>1</sup>	3
EFM 100	Personal Financial Management <sup>1</sup>	3
WPP 200	Workplace Principles <sup>1</sup>	3

<sup>1</sup> May be used to fill diploma general education requirements only.

## Rough Carpenter - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4602013089

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
CAR 126	Intro to Construction	3
CAR 127	Intro to Construction - Lab	1
CAR 140	Surveying & Foundations	3
CAR 141	Surveying & Foundations-Lab	2
CAR 190	Light Frame Construction I	3
CAR 191	Light Frame Const. I-Lab	2
CAR 196	Light Frame Construction II	3
CAR 197	Light Frame Const. II-Lab	2
<b>Total Credits</b>		<b>22</b>

## Cosmetology

Knowledge of the theories of hair, skin, and nail care is coupled with practice of the various techniques used in salons.

Any person enrolling in a cosmetology program shall meet KCTCS admission requirements and complete an application for enrollment provided by the Kentucky Board of Cosmetology. As required by the Kentucky Board of Cosmetology, the applicant shall furnish proof that he or she has earned a high school diploma or its equivalent.

Documentation of digital literacy as defined by KCTCS is required prior to graduation for the diploma credential.

Progression in the Cosmetology program is contingent upon achievement of a grade of “C” or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

After successful completion of the prescribed 1500 hours of instruction, program graduates are eligible to take the examination administered by the National-Interstate Council of State Boards of Cosmetology (NIC) to become licensed cosmetologists.

After successful completion of the prescribed 750 hours of instruction, program graduates are eligible to take the examination administered by the National-Interstate Council of State Boards of Cosmetology (NIC) to become licensed cosmetology instructors.

After successful completion of the prescribed 450 hours of instruction, program graduates are eligible to take the examination administered by the National-Interstate Council of State Boards of Cosmetology (NIC) to become licensed nail technicians.

After successful completion of the prescribed 750 hours of instruction, program graduates are eligible to take the examination administered by the National-Interstate Council of State Boards of Cosmetology (NIC) to become licensed estheticians.

Diplomas

- Cosmetologist - Diploma (p. 180)

Certificates

- Apprentice Cosmetology Instructor - Certificate (p. 180)
- Cosmetologist - Certificate (p. 180)
- Esthetician - Certificate (p. 181)
- Nail Technician - Certificate (p. 181)
- Salon Assistant - Certificate (p. 181)

Cosmetologist - Diploma

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1204014019

Progression in the Cosmetology program is contingent upon achievement of a grade of “C” or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
General Education		
Area 1		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Area 2		
Select one of the following three options:		3
Social/Behavioral Sciences		

Natural Sciences	
Quantitative Reasoning	
Subtotal	6
Technical Courses	
Digital Literacy	3
Select one of the following two options:	48
Option 1	
COS 108 & COS 109	Cosmetology I Theory and Cosmetology I Practical Application
COS 118 & COS 119	Cosmetology II Theory and Cosmetology II Practical Application
COS 228 & COS 229	Cosmetology III Theory and Cosmetology III Practical Application
COS 238 & COS 239	Cosmetology IV Theory and Cosmetology IV Practical Application
Option 2	
COS 114	Cosmetology I, 6-1
COS 116	Cosmetology II, 6-2
COS 218	Cosmetology III, 6-3
COS 222	Cosmetology Review
Subtotal	51
Total Credits	57

Apprentice Cosmetology Instructor - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Jefferson Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1204013069

Course	Title	Credits
Select one of the following two options:		17-28
COS 107 & COS 117	Student Teaching I and Student Teaching II	
COS 170	Accelerated Student Teaching	
Total Credits		17-28

Cosmetologist - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1204013039

Course	Title	Credits
Select one of the following two options:		48
Option 1		
COS 108 & COS 109	Cosmetology I Theory and Cosmetology I Practical Application	
COS 118 & COS 119	Cosmetology II Theory and Cosmetology II Practical Application	

COS 228 & COS 229	Cosmetology III Theory and Cosmetology III Practical Application
COS 238 & COS 239	Cosmetology IV Theory and Cosmetology IV Practical Application

**Option2**

COS 114	Cosmetology I, 6-1
COS 116	Cosmetology II, 6-2
COS 218	Cosmetology III, 6-3
COS 222	Cosmetology Review

**Total Credits** **48**

## Esthetician - Certificate

**Offered at:** Somerset Community College

**Program Plan Number:** 1204093039

Course	Title	Credits
COS 136	Esthetics I	13
COS 146	Esthetics II	13
<b>Total Credits</b>		<b>26</b>

## Nail Technician - Certificate

**Offered at:** Ashland Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Somerset Community College

**Program Plan Number:** 1204013059

Course	Title	Credits
COS 147	Nail Technology	16
<b>Total Credits</b>		<b>16</b>

## Salon Assistant - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1204013079

Course	Title	Credits
Select one of the following two options:		17
COS 137	Salon Assistant	
COS 138 & COS 139	Salon Assistant I and Salon Assistant II	
<b>Total Credits</b>		<b>17</b>

## Criminal Justice

The Criminal Justice Program prepares the student for entry level work in the fields of law enforcement, corrections, court systems, loss safety and prevention, and other related occupations. The Criminal Justice vocations evolved from jobs with minimal requirements to employment positions that require complex knowledge and skills. Criminal Justice Program Curriculum provides the student with a foundation of theory, principles, and techniques employed by the criminal justice agencies. Graduates who complete an AAS Criminal Justice Degree may seek job opportunities on the federal, state, county, municipal levels of government, and private sectors of the criminal justice field.

Progression in the Criminal Justice Program is contingent upon the achievement of a grade of "C" or better in each CRJ course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The grading scale for criminal justice courses with a Pass/Fail scale, the grade of "P or Pass" meets the requirement for the Criminal Justice Program.

Criminal background checks are currently not required for the Criminal Justice AAS Program; however students should understand that certain disqualifiers may hinder employment in the field of criminal justice. Such disqualifiers include, but are not limited to the following: criminal convictions, substance abuse, offensive social media activities, excessive traffic related offenses, and visible tattoos and body piercings. Students seeking employment in the criminal justice field or related field should research the requirements and disqualifiers of their desired areas or agencies of employment.

## Degrees

- Criminal Justice - AAS (p. 181)
  - Corrections Track (p. 182)
  - Criminal Justice Track (p. 182)
  - Law Enforcement Track (p. 183)
  - Security and Loss Prevention Track (p. 183)

## Certificates

- Advanced Law Enforcement Certificate (p. 183)
- Advanced Technologies in Criminal Justice - Certificate (p. 184)
- Community Reentry Specialist - Certificate (p. 184)
- Computer Forensics - Certificate (p. 184)
- Corrections - Certificate (p. 184)
- Criminal Behavior - Certificate (p. 184)
- Criminal Justice Core - Certificate (p. 185)
- Industrial Safety and Security - Certificate (p. 185)
- Law Enforcement - Certificate (p. 185)
- Security and Loss Prevention - Certificate (p. 185)

## Criminal Justice - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301037039

**May be available completely online. Please check with your academic advisor.**

Progression in the Criminal Justice Program is contingent upon the achievement of a grade of "C" or better in each CRJ course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The grading scale for criminal justice courses with a Pass/Fail scale, the grade of "P or Pass" meets the requirement for the Criminal Justice Program.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
ENG 102	Writing II	3
COM 181 or COM 252	Basic Public Speaking Introduction to Interpersonal Communication	3
	Quantitative Reasoning	3
	Natural Science	3
	Heritage/Humanities	3
POL 101 or POL 255	American Government State Government	3
PSY 110	General Psychology	3
SOC 101	Introduction to Sociology	3
	Elective Courses (Can only include Technical courses with the prefix CRJ, CIT, HSM, ISX, SWK, FRS/FIR, HMS, EMS, or any General Education course)	6
	<b>Subtotal</b>	<b>33</b>
<b>Technical Core Requirements</b>		
	Digital Literacy or General Education Elective <sup>1</sup>	3
CRJ 100	Introduction to Criminal Justice	3
CRJ 202	Issues and Ethics in Criminal Justice	3
CRJ 204	Criminal Investigations	3
CRJ 216	Criminal Law	3
CRJ 217	Criminal Procedures	3
CRJ 295	Criminal Justice Capstone	1
	<b>Subtotal</b>	<b>19</b>
	<b>General Education and Technical Core Subtotal</b>	<b>52</b>
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

<sup>1</sup> Digital Literacy must be demonstrated either by competency exam or by completing an approved digital literacy course; if student does not have to take a digital literacy class then the student must choose a general education elective for the completion of the three (3) hours.

## Corrections Track

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 430103703

Course	Title	Credits
<b>Required</b>		
	General Education and Technical Core Subtotal	52
CRJ 102	Introduction to Corrections	3
<b>Track Electives</b>		
	Select six credits of the following 13 options:	6
CRJ 203	Community Corrections: Probations & Parole	
CRJ 208	Delinquency and the Juvenile Justice System	

CRJ 220	Introduction to Computer Forensics for Criminal Justice	
CRJ 222	Prison and Jail Administration	
CRJ 228	Unmanned CRJ Technology Applications	
CRJ 231	Legal Aspects of Corrections	
CRJ 255	Correctional Intervention Strategies	
CRJ 277	Introduction to Criminology	
CRJ 278	Victimology	
CRJ 280	Drugs, Crime, and Society	
CRJ 290	Internship in Criminal Justice	
CRJ 296	Criminal Psychology	
CRJ 299	Selected Topics in Criminal Justice	
	Technical Elective	0-3
	<b>Total Credits</b>	<b>61-64</b>

## Criminal Justice Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 430103701

Course	Title	Credits
<b>Required</b>		
	General Education and Technical Core Subtotal	52
<b>Track Electives</b>		
	Select nine credit hours from the following course options:	9
CRJ 102	Introduction to Corrections	
CRJ 108	Advanced Firearms and Less Than Lethal Weapons	
CRJ 110	Principles of Asset Protection	
CRJ 201	Introduction to Criminalistics	
CRJ 203	Community Corrections: Probations & Parole	
CRJ 208	Delinquency and the Juvenile Justice System	
CRJ 210	Physical Security Technology & Systems	
CRJ 211	Liability & Legal Issues	
CRJ 215	Introduction to Law Enforcement	
CRJ 218	Police Supervision	
CRJ 219	Police Recruit Defensive Tactics	
CRJ 220	Introduction to Computer Forensics for Criminal Justice	
CRJ 222	Prison and Jail Administration	
CRJ 224	Basic Traffic Collision Investigation	
CRJ 225	Driving and Traffic Enforcement for Law Enforcement	
CRJ 228	Unmanned CRJ Technology Applications	
CRJ 230	Criminal Justice Courtroom Procedures	
CRJ 231	Legal Aspects of Corrections	
CRJ 235	Serial Killers	

CRJ 240	Introduction to Corporate & Industrial Security	
CRJ 245	Introduction to Business and Industrial Fraud	
CRJ 255	Correctional Intervention Strategies	
CRJ 277	Introduction to Criminology	
CRJ 278	Victimology	
CRJ 279	Terrorism and Political Violence	
CRJ 280	Drugs, Crime, and Society	
CRJ 290	Internship in Criminal Justice	
CRJ 299	Selected Topics in Criminal Justice	
Technical Elective		0-3
<b>Total Credits</b>		<b>61-64</b>

## Law Enforcement Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 430103702

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		52
CRJ 215	Introduction to Law Enforcement	3
<b>Track Electives</b>		
Select six credit hours from the following course options:		6
CRJ 108	Advanced Firearms and Less Than Lethal Weapons	
CRJ 201	Introduction to Criminalistics	
CRJ 208	Delinquency and the Juvenile Justice System	
CRJ 218	Police Supervision	
CRJ 219	Police Recruit Defensive Tactics	
CRJ 220	Introduction to Computer Forensics for Criminal Justice	
CRJ 224	Basic Traffic Collision Investigation	
CRJ 225	Driving and Traffic Enforcement for Law Enforcement	
CRJ 228	Unmanned CRJ Technology Applications	
CRJ 230	Criminal Justice Courtroom Procedures	
CRJ 235	Serial Killers	
CRJ 277	Introduction to Criminology	
CRJ 279	Terrorism and Political Violence	
CRJ 280	Drugs, Crime, and Society	
CRJ 290	Internship in Criminal Justice	
CRJ 299	Selected Topics in Criminal Justice	
Technical Elective		0-3
<b>Total Credits</b>		<b>61-64</b>

## Security and Loss Prevention Track

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 430103704

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		52
CRJ 110	Principles of Asset Protection	3
<b>Track Electives</b>		
Select six credit hours from the following options:		6
CRJ 210	Physical Security Technology & Systems	
CRJ 211	Liability & Legal Issues	
CRJ 220	Introduction to Computer Forensics for Criminal Justice	
CRJ 228	Unmanned CRJ Technology Applications	
CRJ 240	Introduction to Corporate & Industrial Security	
CRJ 245	Introduction to Business and Industrial Fraud	
CRJ 290	Internship in Criminal Justice	
CRJ 299	Selected Topics in Criminal Justice	
Technical Elective <sup>1</sup>		0-3
<b>Total Credits</b>		<b>61-64</b>

<sup>1</sup> CRJ 107 Introduction to Firearms (1 credit hours) may be used as a technical elective only. Course will not substitute for track elective.

## Advanced Law Enforcement Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4301033069

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 107	Introduction to Firearms	1
CRJ 108	Advanced Firearms and Less Than Lethal Weapons	4
CRJ 204	Criminal Investigations	3
CRJ 215	Introduction to Law Enforcement	3
CRJ 219	Police Recruit Defensive Tactics	4
CRJ 224	Basic Traffic Collision Investigation	4



CRJ 225	Driving and Traffic Enforcement for Law Enforcement	4
<b>Total Credits</b>		<b>23</b>

## Advanced Technologies in Criminal Justice - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033010

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 228	Unmanned CRJ Technology Applications	3
CRJ 217	Criminal Procedures	3
CRJ 204	Criminal Investigations	3
CRJ 220	Introduction to Computer Forensics for Criminal Justice	3
CRJ 201	Introduction to Criminalistics	3
CIT 105	Introduction to Computers	3
<b>Total Credits</b>		<b>18</b>

## Community Reentry Specialist - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033089

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 100	Introduction to Criminal Justice	3
CRJ 202	Issues and Ethics in Criminal Justice	3
CRJ 208	Delinquency and the Juvenile Justice System	3
CRJ 278	Victimology	3
CRJ 255	Correctional Intervention Strategies	3
HMS 210	Drugs, Society, & Human Behavior	3
<b>Total Credits</b>		<b>18</b>

## Computer Forensics - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community

and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 100 or CRJ 204	Introduction to Criminal Justice Criminal Investigations	3
CRJ 220	Introduction to Computer Forensics for Criminal Justice	3
CRJ 230	Criminal Justice Courtroom Procedures	3
CIT 105	Introduction to Computers	3
CIT 111	Computer Hardware and Software	4
CIT 160 or CIT 161	Intro to Networking Concepts Introduction to Networks	4
CIT 180	Security Fundamentals	3
<b>Total Credits</b>		<b>23</b>

## Corrections - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 102	Introduction to Corrections	3
CRJ 100	Introduction to Criminal Justice	3
CRJ 202	Issues and Ethics in Criminal Justice	3
Criminal Justice Electives		9
<b>Total Credits</b>		<b>18</b>

## Criminal Behavior - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033079

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 100	Introduction to Criminal Justice	3
CRJ 277	Introduction to Criminology	3
CRJ 280	Drugs, Crime, and Society	3
CRJ 296	Criminal Psychology	3
PSY 110	General Psychology	3
PSY 298	Essentials of Abnormal Psychology	3
<b>Total Credits</b>		<b>18</b>

## Criminal Justice Core - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033029

Course	Title	Credits
CRJ 100	Introduction to Criminal Justice	3
CRJ 202	Issues and Ethics in Criminal Justice	3
CRJ 204	Criminal Investigations	3
CRJ 216	Criminal Law	3
CRJ 217	Criminal Procedures	3
	Criminal Justice Elective	3
<b>Total Credits</b>		<b>18</b>

## Industrial Safety and Security - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 4301033099

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
CRJ 110	Principles of Asset Protection	3
CRJ 210	Physical Security Technology & Systems	3
CRJ 211	Liability & Legal Issues	3
or CRJ 245	Introduction to Business and Industrial Fraud	3
CRJ 240	Introduction to Corporate & Industrial Security	3
<b>Total Credits</b>		<b>18</b>

## Law Enforcement - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical

College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033049

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 100	Introduction to Criminal Justice	3
CRJ 202	Issues and Ethics in Criminal Justice	3
CRJ 204	Criminal Investigations	3
CRJ 215	Introduction to Law Enforcement	3
	Criminal Justice Electives	6
<b>Total Credits</b>		<b>18</b>

## Security and Loss Prevention - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4301033059

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CRJ 100	Introduction to Criminal Justice	3
CRJ 110	Principles of Asset Protection	3
CRJ 210	Physical Security Technology & Systems	3
CRJ 211	Liability & Legal Issues	3
CRJ 220	Introduction to Computer Forensics for Criminal Justice	3
CRJ 240	Introduction to Corporate & Industrial Security	3
<b>Total Credits</b>		<b>18</b>

## Culinary Arts

The KCTCS Culinary Arts program is designed to prepare students for careers in the Culinary Arts, Food and Beverage Management, Restaurant Management, Catering, Institutional Food Service, and as Professional Chefs. Course work covers a broad spectrum: the preparation of basic and specialized foods, catering and special event planning, international cuisine, baking and pastry arts, nutrition, sanitation, management techniques and functions, cost control, purchasing and culinary fundamentals. Students work in commercial kitchen/laboratory and dining room through the course of study. The program uses the teaching philosophy of the American Culinary Federation, the Academy of Chefs, the National Restaurant Association Education Foundation, and the American Personal Chef Association. The program competencies are those of the American Culinary Federation.

Progression in the Culinary Arts program is contingent upon achievement of a grade of "C" or better in each CUL and NFS courses.

## Degrees

- Culinary Arts - AAS (p. 186)
  - Catering and Personal Chef Degree Track (p. 186)
  - Culinary Arts Degree Track (p. 186)
  - Food and Beverage Management Degree Track (p. 187)

## Diplomas

- Catering and Personal Chef - Diploma (p. 187)
- Culinary Arts - Diploma (p. 187)
- Food and Beverage Management - Diploma (p. 188)

## Certificates

- Advanced Catering - Certificate (p. 188)
- Advanced Culinary Arts - Certificate (p. 189)
- Advanced Food and Beverage Management - Certificate (p. 189)
- Baking - Certificate (p. 189)
- Catering - Certificate (p. 189)
- Culinary Arts - Certificate (p. 189)
- Culinary Arts Professional Development - Certificate (p. 190)
- Farm to Table - Certificate (p. 190)
- Food and Beverage Management - Certificate (p. 190)
- Fundamentals of Culinary Arts - Certificate (p. 190)
- Professional Baking and Pastry Arts - Certificate (p. 190)

## Culinary Arts - AAS

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205037029

Progression in the Culinary Arts program is contingent upon achievement of a grade of "C" or better in each CUL and NFS courses.

Course	Title	Credits
<b>General Education</b>		
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Written Communication		3
Oral Communications		3
Subtotal		18
<b>Culinary Arts Technical Core</b>		
CUL 100 or CUL 105	Introduction to Culinary Arts Applied Introduction to Culinary Arts	2
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4

CUL 215	Basic Baking	4
CUL 230 or NFS 101	Basic Nutrition Human Nutrition and Wellness	3
CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 285 or CUL 290	Front of the House Front of the House-Catering	3-4
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Subtotal		32-36
General Education and Technical Core Subtotal		50-54

*Students must complete one of the tracks listed below to complete the AAS requirements.*

<sup>1</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Catering and Personal Chef Degree Track

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 120503701

Course	Title	Credits
General Education and Technical Core Subtotal		50-54
CUL 220	Advanced Baking & Pastry Arts	4
Select one of the following two options:		6
BAS 170 & CUL 295	Entrepreneurship and Doing Business as a Personal Chef	
BAS 160 & BAS 283	Introduction to Business and Principles of Management	
CUL 298 or CUL 299	Culinary Arts Practicum Experience Culinary Arts Cooperative Education Experience	2-3
<b>Total Credits</b>		<b>62-67</b>

## Culinary Arts Degree Track

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 120503702

Course	Title	Credits
General Education and Technical Core Subtotal		50-54
CUL 220	Advanced Baking & Pastry Arts	4
CUL 260	International & Classical Cuisine	4
CUL 298 or CUL 299	Culinary Arts Practicum Experience Culinary Arts Cooperative Education Experience	2-3
<b>Total Credits</b>		<b>60-65</b>

## Food and Beverage Management Degree Track

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 120503703

Course	Title	Credits
General Education and Technical Core Subtotal		50-54
BAS 160	Introduction to Business	3
BAS 170	Entrepreneurship	3
or BAS 283	Principles of Management	
BAS 282	Principles of Marketing	3
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	
<b>Total Credits</b>		<b>61-66</b>

## Catering and Personal Chef - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205034019

Course	Title	Credits
<b>General Education</b> <sup>1</sup>		
<i>Area 1</i>		
Select one of the following three options:		3
Written/Oral Communications		
Humanities		
Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
<b>Subtotal</b>		<b>6</b>
<b>Technical or Support Courses</b>		
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3
or NFS 101	Human Nutrition and Wellness	
CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3

CUL 285	Front of the House	3-4
or CUL 290	Front of the House-Catering	
Digital Literacy Course or demonstrated competency <sup>2</sup>		0-3
CUL 220	Advanced Baking & Pastry Arts	4
Select one of the following two options:		6
BAS 170	Entrepreneurship	
& CUL 295	and Doing Business as a Personal Chef	
BAS 160	Introduction to Business	
& BAS 283	and Principles of Management	
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	
<b>Subtotal</b>		<b>44-49</b>
<b>Total Credits</b>		<b>50-55</b>

<sup>1</sup> If a diploma is sought, two of the three following courses may be used for the six (6) hours general education. These courses will not count toward the AAS degree:

- WPP 200 Workplace Principles (3 credit hours) Area 2
- EFM 100 Personal Financial Management (3 credit hours) Area 2
- TEC 200 Technical Communications (3 credit hours) Area 1

<sup>2</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Culinary Arts - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205034029

Course	Title	Credits
<b>General Education</b> <sup>1</sup>		
<i>Area 1</i>		
Select one of the following three options:		3
Written/Oral Communications		
Humanities		
Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
<b>Subtotal</b>		<b>6</b>
<b>Technical or Support Courses</b>		
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3
or NFS 101	Human Nutrition and Wellness	

CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 285	Front of the House	3-4
or CUL 290	Front of the House-Catering	
Digital Literacy Course or demonstrated competency <sup>2</sup>		0-3
CUL 220	Advanced Baking & Pastry Arts	4
CUL 260	International & Classical Cuisine	4
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	
Subtotal		42-47
<b>Total Credits</b>		<b>48-53</b>

<sup>1</sup> If a diploma is sought, two of the three following courses may be used for the six (6) hours general education. These courses will not count toward the AAS degree:

- WPP 200 Workplace Principles (3 credit hours) Area 2
- EFM 100 Personal Financial Management (3 credit hours) Area 2
- TEC 200 Technical Communications (3 credit hours) Area 1

<sup>2</sup> Digital Literacy must be demonstrated either by competency exam or by completing an approved digital literacy course.

## Food and Beverage Management - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205034039

Course	Title	Credits
<b>General Education <sup>1</sup></b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written/Oral Communications	
	Humanities	
	Heritage	
<i>Area 2</i>		
Select one of the following three options:		3
	Social/Behavioral Sciences	
	Natural Sciences	
	Quantitative Reasoning	
Subtotal		6
<b>Technical or Support Courses</b>		
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3

or NFS 101	Human Nutrition and Wellness	
CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 285	Front of the House	3-4
or CUL 290	Front of the House-Catering	
Digital Literacy Course or demonstrated competency <sup>2</sup>		0-3
BAS 160	Introduction to Business	3
BAS 170	Entrepreneurship	3
or BAS 283	Principles of Management	
BAS 282	Principles of Marketing	3
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	
Subtotal		43-48
<b>Total Credits</b>		<b>49-54</b>

<sup>1</sup> If a diploma is sought, two of the three following courses may be used for the six (6) hours general education. These courses will not count toward the AAS degree:

- WPP 200 Workplace Principles (3 credit hours) Area 2
- EFM 100 Personal Financial Management (3 credit hours) Area 2
- TEC 200 Technical Communications (3 credit hours) Area 1

<sup>2</sup> Digital Literacy must be demonstrated either by competency exam or by completing an approved digital literacy course.

## Advanced Catering - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033079

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 220	Advanced Baking & Pastry Arts	4
CUL 240	Meats, Seafood, & Poultry	4
CUL 250	Garde Manger	4
CUL 260	International & Classical Cuisine	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 290	Front of the House-Catering	4
Select one of the following two options:		3-6
BAS 170	Entrepreneurship	
BAS 160	Introduction to Business	
& BAS 283	and Principles of Management	
<b>Total Credits</b>		<b>41-44</b>



## Advanced Culinary Arts - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033069

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3
or NFS 101	Human Nutrition and Wellness	
CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 285	Front of the House	3-4
or CUL 290	Front of the House-Catering	
Digital Literacy Course or demonstrated competency		0-3
CUL 220	Advanced Baking & Pastry Arts	4
Select one of the following three options:		4
CUL 260	International & Classical Cuisine	
CUL 235	Farm to Table	
CUL 225	Professional Confection and Pastry Arts	
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	
<b>Total Credits</b>		<b>42-47</b>

## Advanced Food and Beverage Management - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033089

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3
or NFS 101	Human Nutrition and Wellness	

CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 285	Front of the House	3-4
or CUL 290	Front of the House-Catering	
BAS 160	Introduction to Business	3
BAS 170	Entrepreneurship	3
or BAS 283	Principles of Management	
BAS 282	Principles of Marketing	3
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	

**Total Credits** **43-45**

## Baking - Certificate

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033109

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 125	Sanitation and Safety	2
CUL 215	Basic Baking	4
CUL 220	Advanced Baking & Pastry Arts	4
<b>Total Credits</b>		<b>12</b>

## Catering - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033059

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 215	Basic Baking	4
CUL 290	Front of the House-Catering	4
<b>Total Credits</b>		<b>16</b>

## Culinary Arts - Certificate

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033049

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3
or NFS 101	Human Nutrition and Wellness	
CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
CUL 285	Front of the House	3
or CUL 290	Front of the House-Catering	
Digital Literacy Course or demonstrated competency		0-3
<b>Total Credits</b>		<b>32-35</b>

## Culinary Arts Professional Development - Certificate

**Offered at:** Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033099

Course	Title	Credits
Select twelve credit hours from any Culinary Arts courses (Prerequisites apply)		12
<b>Total Credits</b>		<b>12</b>

## Farm to Table - Certificate

**Offered at:** Elizabethtown Community and Technical College, Jefferson Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033119

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 230	Basic Nutrition	3
or NFS 101	Human Nutrition and Wellness	
CUL 235	Farm to Table	4
CUL 298	Culinary Arts Practicum Experience	2-3
or CUL 299	Culinary Arts Cooperative Education Experience	
<b>Total Credits</b>		<b>21-22</b>

## Food and Beverage Management - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033039

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
CUL 240	Meats, Seafood, & Poultry	4
CUL 270	Human Relations Management	3
CUL 280	Cost and Control	3
BAS 160	Introduction to Business	3
BAS 282	Principles of Marketing	3
BAS 283	Principles of Management	3
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
<b>Total Credits</b>		<b>31-34</b>

<sup>1</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Fundamentals of Culinary Arts - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033029

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 250	Garde Manger	4
CUL 125	Sanitation and Safety	2
CUL 211	Basic Food Production	4
CUL 215	Basic Baking	4
<b>Total Credits</b>		<b>16</b>

## Professional Baking and Pastry Arts - Certificate

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1205033129

Course	Title	Credits
CUL 100	Introduction to Culinary Arts	2
or CUL 105	Applied Introduction to Culinary Arts	
CUL 125	Sanitation and Safety	2
CUL 215	Basic Baking	4
CUL 220	Advanced Baking & Pastry Arts	4
CUL 225	Professional Confection and Pastry Arts	4
<b>Total Credits</b>		<b>16</b>

## Cybersecurity

The Cybersecurity program that will prepare students to design, develop, and maintain secure computer systems and provide security for the users they service. Students in this program will study cybersecurity as it relates to hardware, software, user, and data security. Tracks are available in Secure Coding, Network Defense, Cyber Forensics, Cyber Science.

Cybersecurity is a discipline that is needed in every aspect of our society. Organizations that do electronic business are required to keep the information that they handle secure from hackers and others. Many organizations are just identifying the need for Cybersecurity professionals. Data and networks have to be secured to do business in the world today. Businesses often hire consulting agencies or hire Cybersecurity specialists to secure networks.

The Cybersecurity program is set up to be completed in two years. There are no admission requirements for the program.

### Certificate Descriptions:

The Cyber Network and Forensics Fundamentals certificate provides fundamental concepts related to defending computer resources, including networks, and understanding the relationships between cyber defense and forensics (responding to breaches).

The Network Defense - Advanced certificate will prepare students with knowledge of security and forensics using network and cloud technologies. Students in this program will study network security, authentication, and ethical hacking as it relates to network and cloud environments.

The Cyber Forensics - Advanced certificate presents a study of digital forensics principles and related laws, how to respond to security breaches, how to secure data, devices and networks for forensics investigations, and how to write the conclusions of a forensics investigation (reporting). Presents concepts on computer forensics, Mobile Device Forensics, network and cloud forensics and ethical hacking from a forensics view.

The Cyber Defense Fundamentals certificate presents fundamentals concepts for the field of cybersecurity. This certificate is specifically designed to meet the National Security Agency and the U.S. Department for Homeland (NSA/DHS) security criteria for schools who wish to apply to be a Center of Academic Excellence in Cyber Defense (CAE-CD) for two-year colleges.

The Cryptography Fundamentals certificate presents a study of cryptography. Presents concepts related to historical and contemporary

encryption techniques and algorithms, mathematical concepts used with cryptography, and software development for cryptographic algorithms.

The Secure Coding – Fundamentals certificate introduces programming concepts with secure coding principles and practices by focusing on developing software that is free from security vulnerabilities. This certificate provides a comprehensive study of secure software development. Emphasis will be placed on skills required to design, develop, and analyze secure software. Presents concepts which meet national standards in secure software development.

The Secure Coding – Advanced certificate provides students with a more in-depth study of secure programming, data structures, modern programming languages, and secure web application development. Emphasis will be placed on skills required to determine security issues and vulnerabilities and mitigate such vulnerabilities. Presents concepts which meet national standards in secure software development.

The Secure Coding – CIT Bridge certificate provides CIT students with cybersecurity secure coding principles and practices. Presents concepts which meet national standards in secure software development focusing primarily on developing secure code and not “how to program” which is taught in CIT programming courses.

## DEGREES

- Cybersecurity - AAS (p. 191)
  - Secure Coding Track (p. 192)
  - Network Defense Track (p. 192)
  - Cyber Forensics Track (p. 192)
  - Cyber Science Track (p. 192)

## CERTIFICATES

- Cryptography Fundamentals - Certificate (p. 193)
- Cyber Defense Fundamentals - Certificate (p. 193)
- Cyber Forensics- Advanced- Certificate (p. 193)
- Cyber Network and Forensics Fundamentals - Certificate (p. 193)
- Network Defense- Advanced - Certificate (p. 193)
- Secure Coding- Advanced- Certificate (p. 193)
- Secure Coding- CIT Bridge - Certificate (p. 194)
- Secure Coding- Fundamentals- Certificate (p. 194)

Course	Title	Credits
CYS 231	Internet of Things Security and Forensics	3
CYS 234	Computer Operating Systems Forensics	3
CYS 249	Ethical Hacking	3
CYS 250	Secure Software Development II	3
CYS 258	Survey of Programming Languages	3
CRJ 211	Liability & Legal Issues	3
Electives approved by CYS Coordinator <sup>1</sup>		

<sup>1</sup> CIT 120 may be accepted as an elective only for those bridging.

## Cybersecurity - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

Program Plan Number: 4304047109

Course	Title	Credits
<b>General Education Core</b>		
ENG 101	Writing I	3
MAT 150	College Algebra	3
Heritage or Humanities Course		3
Natural Science Course		3
Social and Behavioral Course		3
General Education Subtotal		15
<b>Technical Core</b>		
CYS 100	Cybersecurity Orientation	1
CYS 101	Cybersecurity Foundations	3
CYS 130	Introduction to Cyber Forensics	3
CYS 140	Data Security	3
CYS 145	Foundations of Cyber Systems	3
CYS 150	Secure Software Development I	3
CYS 202	Human, Organizational, and Societal Security	3
CYS 245	Advanced Cyber Systems	3
CYS 285	Cryptography	3
ENG 102	Writing II	3
Oral Communication		3
CYS 299	Cybersecurity Capstone	3
Technical Core Subtotal		34

Students must complete one of the tracks listed below to complete the AAS requirements.

## Secure Coding Track

This program is not currently offered at a KCTCS College.  
Program Plan Number: 430404701

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Required Courses		49
CYS 250	Secure Software Development II	3
or CYS 251	Secure Software Development Bridge	
CYS 255	Secure Software Development III	3
CYS 258	Survey of Programming Languages	3
CYS 270	Secure Web Applications	3
Cyber Elective		0-3
<b>Total Credits</b>		<b>61-64</b>

## Network Defense Track

Offered at: Big Sandy Community and Technical College, Bluegrass Community and Technical College

Program Plan Number: 430404702

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Required Courses		49
CYS 265	Network and Cloud Forensics	3
CYS 247	Linux Security	3
CYS 248	Network Security and Authentication	3

CYS 249	Ethical Hacking	3
Cyber Elective		0-3
<b>Total Credits</b>		<b>61-64</b>

## Cyber Forensics Track

Offered at: Big Sandy Community and Technical College, Bluegrass Community and Technical College

Program Plan Number: 430404703

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Required Courses		49
CYS 234	Computer Operating Systems Forensics	3
CYS 265	Network and Cloud Forensics	3
CYS 266	Mobile Device Forensics	3
CYS 249	Ethical Hacking	3
Cyber Elective		0-3
<b>Total Credits</b>		<b>61-64</b>

## Cyber Science Track

Offered at: Big Sandy Community and Technical College, Bluegrass Community and Technical College

Program Plan Number: 430404704

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Required Courses		49
Select one of the following two options:		3
Heritage or Humanities Course <sup>1 3</sup>		
Social and Behavioral Course <sup>2 3</sup>		
Natural Science Course With a lab		3-4
Select one of the following five options:		3-5
STA 220	Statistics	
STA 210	Statistics: A Force in Human Judgement	
STA 296U	Statistical Methods and Motivations	
MAT 174	Calculus I	
MAT 175	Calculus I	
Select one of the following two options:		6
Cyber Electives		
(Natural Science course(s) AND Quantitative Reasoning Course(s)) <sup>4</sup>		
<b>Total Credits</b>		<b>64-67</b>

## Cybersecurity Electives

Course	Title	Credits
CYS 231	Internet of Things Security and Forensics	3
CYS 234	Computer Operating Systems Forensics	3
CYS 249	Ethical Hacking	3
CYS 250	Secure Software Development II	3
CYS 258	Survey of Programming Languages	3
CRJ 211	Liability & Legal Issues	3
Electives approved by CYS coordinator <sup>5</sup>		

- <sup>1</sup> The category fulfilled here must be in the category not fulfilled by the Heritage or Humanities course in the General Education core.
- <sup>2</sup> The course taken must be from a different prefix from the Social and Behavioral course taken in the General Education core.
- <sup>3</sup> One course with this notation must fulfill the Cross-Cultural designation for General Education certification.
- <sup>4</sup> The total number of hours combined of Natural Science and/or Quantitative Reasoning courses for this requirement cannot exceed 6 hours).
- <sup>5</sup> CIT 120 may be accepted as an elective only for those bridging from CIT -Programming to Cybersecurity - Secure Coding

## Cryptography Fundamentals - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Somerset Community College

**Program Plan Number:** 4304043089

Course	Title	Credits
MAT 150	College Algebra	3
CYS 100	Cybersecurity Orientation	1
CYS 101	Cybersecurity Foundations	3
CYS 140	Data Security	3
CYS 150	Secure Software Development I	3
CYS 285	Cryptography	3
<b>Total Credits</b>		<b>16</b>

## Cyber Defense Fundamentals - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Somerset Community College

**Program Plan Number:** 4304043079

Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
CYS 101	Cybersecurity Foundations	3
CYS 140	Data Security	3
CYS 145	Foundations of Cyber Systems	3
CYS 150	Secure Software Development I	3
CYS 245	Advanced Cyber Systems	3
CYS 285	Cryptography	3
<b>Total Credits</b>		<b>19</b>

## Cyber Forensics- Advanced- Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 4304043069

Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
CYS 130	Introduction to Cyber Forensics	3
CYS 234	Computer Operating Systems Forensics	3
CYS 265	Network and Cloud Forensics	3
CYS 266	Mobile Device Forensics	3
Cyber Elective (choose from List) <sup>1</sup>		3
<b>Total Credits</b>		<b>16</b>

<sup>1</sup> CIT 120 may be accepted as an elective only for those bridging.

## Cyber Network and Forensics Fundamentals - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Somerset Community College

**Program Plan Number:** 4304043049

Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
CYS 101	Cybersecurity Foundations	3
CYS 145	Foundations of Cyber Systems	3
CYS 245	Advanced Cyber Systems	3
MAT 150	College Algebra	3
Cyber Elective (choose from List)		3
<b>Total Credits</b>		<b>16</b>

## Network Defense- Advanced - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 4304043059

Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
CYS 265	Network and Cloud Forensics	3
CYS 247	Linux Security	3
CYS 248	Network Security and Authentication	3
CYS 249	Ethical Hacking	3
Cyber Elective (choose from List) <sup>1</sup>		3
<b>Total Credits</b>		<b>16</b>

<sup>1</sup> CIT 120 may be accepted as an elective only for those bridging

## Secure Coding- Advanced- Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 4304043029



Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
CYS 250	Secure Software Development II	3
CYS 255	Secure Software Development III	3
CYS 258	Survey of Programming Languages	3
CYS 270	Secure Web Applications	3
Cyber Elective (choose from List) <sup>1</sup>		3
<b>Total Credits</b>		<b>16</b>

<sup>1</sup> CIT 120 may be accepted as an elective only for those bridging.

## Secure Coding- CIT Bridge - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 4304043039

Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
Select one of the following five options:		3
CIT 142	C++ I	
CIT 143	C# I	
CIT 149	Java I	
CS 115U	Introduction to Computer Programming	
INF 120U	Elementary Programming	
Select one of the following five options:		3-4
CIT 242	C++ II	
CIT 243	C# II	
CIT 249	Java II	
CS 215U	Introduction to Program Design, Abstraction, and Problem Solving	
INF 260U	Object Oriented Programming I	
CYS 251	Secure Software Development Bridge	3
CYS 255	Secure Software Development III	3
or CYS 258	Survey of Programming Languages	
Cyber Elective (choose from List) <sup>1</sup>		3
<b>Total Credits</b>		<b>16-17</b>

<sup>1</sup> CIT 120 may be accepted as an elective only for those bridging.

## Secure Coding- Fundamentals- Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 4304043019

Course	Title	Credits
CYS 100	Cybersecurity Orientation	1
CYS 101	Cybersecurity Foundations	3
CYS 140	Data Security	3

CYS 150	Secure Software Development I	3
CYS 258	Survey of Programming Languages	3
MAT 150	College Algebra	3
<b>Total Credits</b>		<b>16</b>

## Dental Assisting and Dental Hygiene

The Dental Assisting and Dental Hygiene Programs prepare graduates to function as dental auxiliaries.

The Dental Assisting program prepares the student to function as a dental assistant under the supervision of a dentist. As a member of the dental health team, the dental assistant is responsible for providing such services as assisting the dentist with operative and surgical procedures, manipulation of dental materials, taking radiographs, providing oral health instructions and performing office management tasks.

Dental Assisting students will be awarded a Diploma in Dental Assisting and will be eligible to take the Dental Assisting National Board (DANB). Graduates will also be certified in radiation health and safety, coronal polishing and expanded duties (lab competency). The dental assisting curriculum includes courses in general education as well as dental assisting as required by the Commission on Dental Accreditation. The program provides comprehensive educational experiences through lectures, clinical externship rotations, laboratory and related study.

Progression in the Dental Assisting and Dental Hygiene Program is contingent upon the achievement of a grade of "C" or better in each (DAS) course, (DAH) course, and approved science courses.

The Dental Hygiene Program prepares the student to function as a dental hygienist on a dental auxiliary team under the supervision of a dentist. The curriculum includes content areas in general studies, biomedical sciences, dental sciences, clinical sciences, radiography, periodontology, and dental hygiene clinical experience. The program provides comprehensive educational experiences through lectures, clinical, and related study in order that graduates may apply scientific knowledge in the performance of dental hygiene procedures.

Students must achieve a minimum grade of "C" in each (DHG) course, (DAH) course, and approved science courses.

Upon completion, graduates are eligible to apply to take the National Board Dental Hygiene Examination (NBDHE). A certificate in Coronal Polishing is awarded upon successful completion of DHG 130. An AAS degree and Local Anesthesia and Nitrous Oxide Sedation Certificate is awarded upon successful completion of the total curriculum. As the only licensed dental auxiliaries, dental hygienists may be employed in dental offices, clinics, dental schools, public health, and government agencies.

The programs are accredited by the Commission on Dental Accreditation, a specialized accrediting body of the American Dental Association. The commission is nationally recognized by the U.S. Department of Education to accredit dental and dental related educational programs at the post-secondary level.

### Coronal Polishing Certificate

The Coronal Polishing Certificate offers students the opportunity to earn a credential demonstrating competency in the dental auxiliary procedure of coronal polishing. This procedure is defined in the regulations established by the Kentucky Board of Dentistry in 201 KAR 8:571 as "the final stage of a dental prophylaxis on the clinical crown of the tooth after

a dentist or a hygienist has verified there is no calcareous material." This certificate will be awarded after successful completion of DHG 130, which fulfills all requirements for Coronal Polishing training mandated by the Kentucky Board of Dentistry for registered Dental Assistants.

This credential provides an opportunity for those individuals that exit the Dental Hygiene Program prior to degree completion the ability to demonstrate clinical competency in this procedure and enhances workforce skills.

#### Local Anesthesia and Nitrous Oxide Sedation Certificate

The Local Anesthesia and Nitrous Oxide Sedation Certificate offers students the opportunity to earn a credential demonstrating basic competency in the administration of block and infiltration anesthesia and nitrous oxide sedation under the direct supervision of a licensed dentist. The Local Anesthesia and Nitrous Oxide Sedation Certificate will be awarded upon graduation from the AAS degree program in Dental Hygiene. This certification provides graduates of the AAS degree program in Dental Hygiene a formal certificate of completion to be used for the purposes of licensure throughout the country.

## Degrees

- Dental Hygiene - AAS (p. 195)

Offered in East Consortium - Credential granted by Big Sandy Community & Technical College but also taught at Somerset Community College.

## Diplomas

- Dental Assisting - Diploma (p. 195)

Offered in West Consortium - Credential granted by Big Sandy Community & Technical College and West Kentucky Community and Technical College.

## Certificates

- Coronal Polishing - Certificate (p. 197)
- Local Anesthesia and Nitrous Oxide Sedation - Certificate (p. 197)

## Dental Hygiene - AAS

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 5106027040

Students must achieve a minimum grade of "C" in each (DHG) course, (DAH) course, and approved science courses.

Course	Title	Credits
<b>General Education Classes</b>		
ENG 101	Writing I	3
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
BIO 225	Medical Microbiology with Laboratory	4
PSY 110	General Psychology	3
SOC 101	Introduction to Sociology	3
MAT 110	Applied Mathematics	3
or MAT 150	College Algebra	
Oral Communications		3
Heritage/Humanities		3

Subtotal		30
<b>Integrated Classes</b>		
DAH 101	Infection Control & Medical Emergencies	2
DAH 121	Dental Sciences	3
DAH 124	Materials In Dentistry	2
DAH 131	Oral Pathology	3
DAH 135	Oral Radiology	2
DAH 235	Practice Management	1
Subtotal		13
<b>Dental Hygiene Only Classes</b>		
DHG 120	Pre-Clinical Dental Hygiene	3
DHG 130	Clinical Dental Hygiene I	3
DHG 132	Pharmacology	2
DHG 134	Dental Nutrition	2
DHG 136	Periodontology	1
DHG 220	Clinical Dental Hygiene II	4
DHG 221	Local Anesthesia and Nitrous Oxide Sedation	2
DHG 226	Advanced Periodontology	2
DHG 228	Evidence-Based Practice for the Dental Hygienist	1
DHG 230	Clinical Dental Hygiene III	3
DHG 238	Community Dental Health Issues	2
Subtotal		25
<b>Total Credits</b>		<b>68</b>

## Dental Assisting - Diploma

**Offered at:** Big Sandy Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5106024019

Progression in the Dental Assisting and Dental Hygiene Program is contingent upon the achievement of a grade of "C" or better in each (DAS) course, (DAH) course, and approved science courses.

Course	Title	Credits
<b>General Education Classes</b>		
<i>Program Related Classes</i>		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Select one of the following three options:		3
Written Communication		
Oral Communications		
Heritage/Humanities		
PSY 110	General Psychology (Required at Big Sandy CTC, recommended at West Kentucky CTC)	0-3
Subtotal		7-14
<b>Integrated Classes</b>		
DAH 101	Infection Control & Medical Emergencies	2
DAH 121	Dental Sciences	3
DAH 124	Materials In Dentistry	2
DAH 131	Oral Pathology	3

DAH 135	Oral Radiology	2
DAH 235	Practice Management	1
Subtotal		13
<i>Dental Assisting Only Classes</i>		
DAS 125	Dental Assisting I	6
DAS 130	Seminar I	2
DAS 225	Dental Assisting II	2
DAS 230	Seminar II	1
DAS 245	Preventive Dentistry	2
DAS 250	Clinical Externship	5
Subtotal		18
<b>Total Credits</b>		<b>38-45</b>

## Dental Hygiene

The Dental Hygiene program prepares graduates to use their skill and knowledge as dental hygienists to fulfill the role of a licensed oral health professional who is responsible for preventing and treating oral diseases in a variety of settings. The curriculum includes courses in general education and in dental hygiene as required by the Commission on Dental Accreditation (CODA) and Kentucky state dental practice act. An AAS is awarded after completion of the total curriculum and a certificate is awarded after completion of each: DHP 120 Dental Hygiene I (4 credit hours), DHP 135 Dental Radiology (3 credit hours), and DHP 229 Local Anesthesia and Nitrous Oxide Sedation (2 credit hours). The Dental Hygiene curriculum is organized around a clearly defined, comprehensive educational experience that combines general education and dental hygiene courses through didactic, laboratory and clinical courses in order that students may apply scientific evidence-based knowledge in the performance of dental hygiene procedures. Students are also required to attend rotations through outside agencies for enrichment and must provide their own transportation.

Graduates are eligible to take state, regional and national board exams such as National Board Dental Hygiene Examination (NBDHE) and American Board of Dental Examiners (ADEX) clinical boards. Acceptance into the Dental Hygiene program is based on a selective admissions process. In order to be considered for admission, applicants must comply with college and program admission requirements prior to the online-posted deadline.

Progression in the Dental Hygiene Program is contingent upon the achievement of a minimum grade of "C" or better in each Dental Hygiene and approved biological science course.

Documentation of digital literacy as defined by KCTCS and Cardiopulmonary resuscitation (CPR) are required prior to admission to DHP courses.

Note: The Kentucky Board of Dentistry may deny a license to practice dental hygiene to graduates who have been convicted of a misdemeanor or felony that involves acts that bear directly on the qualifications of the graduate to practice dental hygiene.

## Coronal Polishing Certificate

The Coronal Polishing Certificate offers students the opportunity to earn a credential demonstrating basic competency in the area of coronal polishing, a procedure that is the final stage of a dental prophylaxis on the clinical crown of a tooth. The certificate will be given after completion of DHP 120 Dental Hygiene I (4 credit hours), which teaches all the

requirements for Coronal Polishing training mandated in 201 KAR 8:571 by the Kentucky Board of Dentistry for registered dental assistants. It gives those who are unable to complete a degree a way of demonstrating their level of proficiency. It gives current dental hygiene students a way to practice as a dental assistant until they receive a dental hygiene license.

## Dental Radiography Certificate

The Dental Radiography Certificate offers students the opportunity to earn a credential demonstrating basic dental radiography safety and technique in order to take x-rays under the direct supervision of a licensed dentist. The certificate will be given after completion of DHP 135 Dental Radiology (3 credit hours), which teaches all the requirements for Dental Radiography training mandated in 201 KAR 8:571 by the Kentucky Board of Dentistry for registered dental assistants. It gives those who are unable to complete a degree a way of demonstrating their level of proficiency. It gives current dental hygiene students a way to practice as a dental assistant until they receive a dental hygiene license.

## Local Anesthesia and Nitrous Oxide Sedation Certificate

The Local Anesthesia and Nitrous Oxide Sedation Certificate offers students the opportunity to earn a credential demonstrating basic competency in the administration of block and infiltration anesthesia and nitrous oxide analgesia under the direct supervision of a licensed dentist. This certificate will be given after completion of DHP 229 Local Anesthesia and Nitrous Oxide Sedation (2 credit hours) and the total curriculum when all the requirements for Local Anesthesia and Nitrous Oxide Sedation administration, as well as delivery and mastery of each method as mandated in 201 KAR 8:571 and described in KRS 313:060 Section 10 by the Kentucky Board of Dentistry for registered dental hygienists will be met. It gives those who complete the AAS in Dental Hygiene a formal certificate of completion to be used for purposes of licensure across the country.

Note: Hours Exception (68-72 for the A.A.S.) approved by the KCTCS Board of Regents in June 2020.

## Certificates

The Coronal Polishing, Dental Radiology and Local Anesthesia and Nitrous Oxide Sedation certificates are only available to students who have been admitted to the Dental Hygiene selective admission program at Bluegrass Community & Technical College.

## Degrees

- Dental Hygiene - AAS (p. 196)

## Certificates

- Coronal Polishing - Certificate (p. 197)
- Dental Radiology - Certificate (p. 197)
- Local Anesthesia and Nitrous Oxide Sedation - Certificate (p. 197)

## Dental Hygiene - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5106027019

Progression in the Dental Hygiene Program is contingent upon the achievement of a minimum grade of "C" or better in each Dental Hygiene and approved biological science course.

Course	Title	Credits
<b>General Education Core</b>		
ENG 101	Writing I	3
Quantitative Reasoning Course at AA/AS Level		3
COM 181	Basic Public Speaking	3
PSY 110	General Psychology	3
SOC 101	Introduction to Sociology	3
Heritage/Humanities		3
BIO 137	Human Anatomy and Physiology I with Laboratory <sup>1</sup>	4
BIO 139	Human Anatomy and Physiology II with Laboratory <sup>1</sup>	4
BIO 225	Medical Microbiology with Laboratory	3-4
or BIO 226	Principles of Microbiology	
Digital Literacy Course or demonstrated competency <sup>2</sup>		0-3
<b>Subtotal</b>		<b>29-33</b>
<b>Technical Courses</b>		
DHP 120	Dental Hygiene I	4
DHP 122	Dental Nutrition	2
DHP 123	Oral Biology	2
DHP 124	Materials in Dentistry	2
DHP 130	Dental Hygiene II	3
DHP 132	Oral Pathology and Pharmacology	4
DHP 135	Dental Radiology	3
DHP 136	Periodontics I	2
DHP 220	Dental Hygiene III	3
DHP 222	Special Needs Patients	3
DHP 226	Periodontics II	2
DHP 229	Local Anesthesia and Nitrous Oxide Sedation	2
DHP 230	Dental Hygiene IV	3
DHP 235	Principles of Practice	1
DHP 238	Community Dental Health	3
<b>Subtotal</b>		<b>39</b>
<b>Total Credits</b>		<b>68-72</b>

<sup>1</sup> Required before enrolling in DHP 120 Dental Hygiene I (4 credit hours): The Dental Hygiene Program at BCTC requires that BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) & BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours) or their equivalents be successfully completed with a grade of C or higher prior to beginning DHP 120 Dental Hygiene I (4 credit hours).

<sup>2</sup> Documentation of digital literacy as defined by KCTCS is required prior to admission to DHP courses. CPR certification for the healthcare provider must be obtained prior to enrolling in DHP 120 Dental Hygiene I (4 credit hours) and certification must be kept current throughout the Program.

## Coronal Polishing - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 5106023009

Course	Title	Credits
Choose one of the following 2 options:		3-4
<i>Option 1</i>		
DHP 120	Dental Hygiene I	
<i>Option 2</i>		
DHG 130	Clinical Dental Hygiene I <sup>1</sup>	
<b>Total Credits</b>		<b>3-4</b>

<sup>1</sup> The Coronal Polishing and Local Anesthesia and Nitrous Oxide Sedation certificates are only available to students who have been admitted to a Dental Hygiene or Dental Assisting/Dental Hygiene program.

## Dental Radiology - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5106023029

Course	Title	Credits
DHP 135	Dental Radiology	3
<b>Total Credits</b>		<b>3</b>

## Local Anesthesia and Nitrous Oxide Sedation - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College

**Program Plan Number:** 5106023039

Course	Title	Credits
Choose one of the following 2 options:		2
<i>Option 1</i>		
DHP 229	Local Anesthesia and Nitrous Oxide Sedation <sup>1</sup>	
<i>Option 2</i>		
DHG 221	Local Anesthesia and Nitrous Oxide Sedation <sup>1</sup>	
<b>Total Credits</b>		<b>2</b>

<sup>1</sup> The Coronal Polishing and Local Anesthesia and Nitrous Oxide Sedation certificates are only available to students who have been admitted to a Dental Hygiene or Dental Assisting/Dental Hygiene program.

## Diagnostic Medical Sonography

Diagnostic Medical Sonography is a highly-skilled profession which uses specialized equipment to create images of structures inside the human body used by physicians to make medical diagnoses. Graduates of the program are qualified to provide patient services using diagnostic techniques under the supervision of a licensed physician.

This program contains four tracks, the general/vascular track, the general track, the vascular track and the cardiac track. The general/vascular track prepares the graduate to be a general sonographer



who is qualified to perform vascular ultrasound. Sonographers have extensive, direct patient contact that may include performing some invasive procedures. The general track prepares the graduate to perform sonograms on the abdominal, small parts and OB/GYN applications. The vascular track prepares the graduate to perform sonograms on the cerebrovascular, peripheral arterial, peripheral venous and abdominal vascular applications. The cardiac track prepares the graduate to perform cardiovascular sonograms.

Sectional anatomy, ultrasonic instrumentation and imaging are the major components in this program. Skills are developed through clinical experiences using diagnostic imagery equipment.

An advanced option (certificate) in vascular sonography is offered for candidates who are currently employed and registry eligible in Diagnostic Medical Sonography.

The student is exposed to and expected to acquire skills, attitudes, and habits that are generally common to all professionals in the medical field. Graduates will be prepared for a professional career in the opted sonography field.

A program-approved CPR requirement must be successfully completed prior to enrolling in the first sonography course and must be kept current throughout the program. Documentation of successful completion of a minimum 75 hour nursing assistant course or its equivalent is required prior to enrolling in the first sonography course.

Applicants must complete all required general education and supportive courses with a grade of a "C" or better prior to entering in the Diagnostic Medical Sonography program. Progression in the Diagnostic Medical Sonography program is contingent upon achievement of a grade of "C" or better in each Sonography course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Transportation to the community agencies is the responsibility of each student.

Note: Hours Exception (67-76 for the A.A.S) approved by the KCTCS Board of Regents in June 2010.

## Degree

- Diagnostic Medical Sonography - AAS (p. 198)
  - Vascular Sonography Track (p. 199)
  - General/Vascular Sonography Track (p. 199)
  - General Sonography Track (p. 198)
  - Cardiac Sonography Track (p. 198)

## Diagnostic Medical Sonography - AAS

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5109107019

Applicants must complete all required general education and supportive courses with a grade of a "C" or better prior to entering in the Diagnostic Medical Sonography program. Progression in the Diagnostic Medical Sonography program is contingent upon achievement of a grade of "C" or

better in each Sonography course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
MAT 150	College Algebra	3
ENG 101	Writing I	3
Heritage/Humanities		3
Social/Behavioral Sciences		3
Select one of the following two options:		4-8
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
BIO 135	Basic Anatomy and Physiology with Laboratory	
Select one of the following three options:		3-4
PHY 151	Introductory Physics I	
PHY 152	Introductory Physics II	
PHY 171	Applied Physics	
Subtotal		19-24
<b>Supportive Courses</b>		
AHS 120	Medical Terminology	1
Select one of the following three options:		0-4
NAA 100	Nursing Assistant Skills I	
MNA 100 & CPR 100	Medicaid Nurse Aide and CPR for Healthcare Professionals	
HST 101	Health Care Basic Skills I	
Subtotal		1-5
General Education and Supportive Subtotal		20-29
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

## Cardiac Sonography Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College

**Program Plan Number:** 510910708

Course	Title	Credits
General Education and Supportive Subtotal		20-29
DMS 119	Ultrasonic Physics and Instrumentation	6
DMS 146	Cardiac Techniques I	12
DMS 147	Cardiac Clinical Education I	1
DMS 207	Cardiac Techniques II	7
DMS 216	Cardiac Techniques III	3
DMS 246	Cardiac Review	1
DMS 247	Cardiac Clinical Education II	2
DMS 248	Cardiac Clinical Education III	6
DMS 249	Cardiac Clinical Education IV	8
<b>Total Credits</b>		<b>66-75</b>

## General Sonography Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College



**Program Plan Number:** 510910706

Course	Title	Credits
General Education and Supportive Subtotal		20-29
DMS 111	Abdominal Sonography	7
DMS 116	OB/GYN Sonography	6
DMS 119	Ultrasonic Physics and Instrumentation	6
DMS 218	Abdominal Review	2
DMS 219	OB/GYN Review	2
Select 17 credit hours from the following three clinical courses:		17
DMS 126	Clinical Education I	
DMS 230	Clinical Education II	
DMS 240	Clinical Education III	
<b>Total Credits</b>		<b>60-69</b>

## General/Vascular Sonography Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510910705

Course	Title	Credits
General Education and Supportive Subtotal		20-29
DMS 109	Sonography I	7
DMS 115	Sonography II	6
DMS 119	Ultrasonic Physics and Instrumentation	6
DMS 255	Vascular Technology	6
DMS 260	Vascular Clinical Education	6
Select 17 credit hours from the following three clinical courses:		17
DMS 126	Clinical Education I	
DMS 230	Clinical Education II	
DMS 240	Clinical Education III	
<b>Total Credits</b>		<b>68-77</b>

## Vascular Sonography Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College

**Program Plan Number:** 510910707

Course	Title	Credits
General Education and Supportive Subtotal		20-29
DMS 117	Vascular Sonography I	7
DMS 118	Vascular Sonography II	6
DMS 119	Ultrasonic Physics and Instrumentation	6
DMS 136	Vascular Clinical Education I	4
DMS 204	Online Vascular Review	2
DMS 206	Online Vascular Sonography III	3
DMS 236	Vascular Clinical Education II	8
DMS 237	Vascular Clinical Education III	5
<b>Total Credits</b>		<b>61-70</b>

## Diesel Technology

Emphasizes the skills needed to analyze malfunctions and repair, rebuild and maintain construction equipment, agriculture equipment, or medium and heavy trucks in this program of study. Provides instruction and experience in systems such as diesel engines, fuel injection, onboard computers, transmissions, steering and suspension, and brakes.

A student must receive a grade of "C" or better to receive credit for successful completion of courses in the diesel technology curriculum.

## Degrees

- Diesel Technology - AAS (p. 200)
  - Agriculture Diesel Technician Track (p. 200)
  - Construction Equipment Technician Track (p. 200)
  - Medium and Heavy Truck Technician Track (p. 201)

## Diplomas

- Agriculture Equipment Technician - Diploma (p. 201)
- Construction Equipment Technician - Diploma (p. 201)
- Medium and Heavy Truck Technician - Diploma (p. 202)

## Certificates

- Agriculture Equipment Mechanic Helper - Certificate (p. 203)
- Construction Equipment Mechanic Helper - Certificate (p. 203)
- Diesel Engine Mechanic - Certificate (p. 203)
- Diesel Mechanics Assistant - Certificate (p. 203)
- Diesel Steering & Suspension Mechanic - Certificate (p. 204)
- Electrical/Electronics Systems Mechanic - Certificate (p. 204)
- Fluid Power Mechanic - Certificate (p. 204)
- Heavy Duty Brake Mechanic - Certificate (p. 204)
- Heavy Duty Drive Train Mechanic - Certificate (p. 204)
- Medium and Heavy Truck Mechanic Helper - Certificate (p. 205)
- Mobile Air Conditioning Mechanic - Certificate (p. 205)
- Preventive Maintenance Mechanic - Certificate (p. 205)
- Undercarriage Mechanic - Certificate (p. 205)

## Recommended Technical Electives (Program Coordinator Approval Required)

Course	Title	Credits
DIT 180	Brakes	3
DIT 181	Brakes Lab	2
DIT 160	Steering and Suspension	3
DIT 161	Steering and Suspension Lab	2
Select one of the following:		3-5
DIT 121	Introduction to Maintenance Welding Lab	
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
DIT 123	Undercarriage Lab	3
DIT 152	Powertrain for Construction Equipment	3
DIT 153	Powertrain for Construction Equipment Lab	2
DIT 105	Mechanical Principles	1-3

or PMX 100	Precision Measurement	
DIT 198	Practicum	1
DIT 298	Practicum	2
DIT 199	Cooperative Education	1
Or other courses as approved by the Program Coordinator that will prepare the student for the workforce		

## Diesel Technology - AAS

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4706057039

### Curriculum Effective Spring Semester

A student must receive a grade of "C" or better to receive credit for successful completion of courses in the diesel technology curriculum.

Course	Title	Credits
<b>General Education</b>		
Written Communication		3
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Subtotal		15
<b>Technical Core</b>		
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		5
BEX 100 & BEX 101	Basic Electricity for Non-Majors and Basic Electricity Lab for Non-Majors	
ADX 120 & ADX 121	Basic Automotive Electricity and Basic Automotive Electricity Lab	
ELT 110	Circuits I	
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
DIT 103	Preventive Maintenance Lab	2
Select one of the following two options:		5
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
DIT 150	Power Trains	3
DIT 151	Power Trains Lab	2
Select one of the following two options:		5
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
Subtotal		34

General Education and Technical Core Subtotal	49
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*Students must complete one of the tracks listed below to complete the AAS requirements.*

<sup>1</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course. If demonstrated by a competency exam, an additional three credit hour class must be taken.

## Agriculture Diesel Technician Track

**Offered at:** Elizabethtown Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 470605701

Course	Title	Credits
General Education and Technical Core Subtotal		49
DIT 152	Powertrain for Construction Equipment	3
DIT 153	Powertrain for Construction Equipment Lab	2
Select one of the following two options:		5
DIT 140 & DIT 141	Hydraulics and Hydraulics Lab	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
Select one of the following three options:		3-5
DIT 121	Introduction to Maintenance Welding Lab	
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
<b>Total Credits</b>		<b>62-64</b>

## Construction Equipment Technician Track

**Offered at:** Elizabethtown Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 470605702

Course	Title	Credits
General Education and Technical Core Subtotal		49
Select one of the following three options:		3-5
DIT 121	Introduction to Maintenance Welding Lab	
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
Select one of the following two options:		5
DIT 140 & DIT 141	Hydraulics and Hydraulics Lab	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
DIT 123	Undercarriage Lab	3
DIT 152	Powertrain for Construction Equipment	3

DIT 153	Powertrain for Construction Equipment Lab	2
<b>Total Credits</b>		<b>65-67</b>

## Medium and Heavy Truck Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 470605703

Course	Title	Credits
General Education and Technical Core Subtotal		49
DIT 180	Brakes	3
DIT 181	Brakes Lab	2
DIT 160	Steering and Suspension	3
DIT 161	Steering and Suspension Lab	2
Select one of the following four options:		3-5
DIT 140 & DIT 141	Hydraulics and Hydraulics Lab	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
DIT 121	Introduction to Maintenance Welding Lab	
<b>Total Credits</b>		<b>62-64</b>

## Agriculture Equipment Technician - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706054039

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Science		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
<b>Technical Courses</b>		
Digital Literacy course or demonstrated competency		0-3

ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
Select one of the following three options:		5
BEX 100 & BEX 101	Basic Electricity for Non-Majors and Basic Electricity Lab for Non-Majors	
ADX 120 & ADX 121	Basic Automotive Electricity and Basic Automotive Electricity Lab	
ELT 110	Circuits I	
DIT 103	Preventive Maintenance Lab	2
Select one of the following:		5
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
Select one of the following three options:		3-5
DIT 121	Introduction to Maintenance Welding Lab	
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
Select one of the following two options:		5
DIT 140 & DIT 141	Hydraulics and Hydraulics Lab	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
DIT 150	Power Trains	3
DIT 151	Power Trains Lab	2
DIT 152	Powertrain for Construction Equipment	3
DIT 153	Powertrain for Construction Equipment Lab	2
Select one of the following two options:		5
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
Subtotal		44-49
<b>Total Credits</b>		<b>50-55</b>

## Construction Equipment Technician - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706054019

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3

Written Communication		
Oral Communications		
Humanities/Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
<b>Technical Courses</b>		
Digital Literacy course or demonstrated competency		0-3
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
Select one of the following three options:		5
BEX 100 & BEX 101	Basic Electricity for Non-Majors and Basic Electricity Lab for Non-Majors	
ADX 120 & ADX 121	Basic Automotive Electricity and Basic Automotive Electricity Lab	
ELT 110	Circuits I	
DIT 103	Preventive Maintenance Lab	2
Select one of the following two options:		5
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
DIT 150	Power Trains	3
DIT 151	Power Trains Lab	2
DIT 152	Powertrain for Construction Equipment	3
DIT 153	Powertrain for Construction Equipment Lab	2
Select one of the following three options:		3-5
DIT 121	Introduction to Maintenance Welding Lab	
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
DIT 123	Undercarriage Lab	3
Select one of the following two options:		5
DIT 140 & DIT 141	Hydraulics and Hydraulics Lab	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
Select one of the following two options:		5
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
Subtotal		47-52
<b>Total Credits</b>		<b>53-58</b>

## Medium and Heavy Truck Technician - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706054049

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
<b>Technical Courses</b>		
Digital Literacy course or demonstrated competency		0-3
Select one of the following three options:		5
BEX 100 & BEX 101	Basic Electricity for Non-Majors and Basic Electricity Lab for Non-Majors	
ADX 120 & ADX 121	Basic Automotive Electricity and Basic Automotive Electricity Lab	
ELT 110	Circuits I	
DIT 103	Preventive Maintenance Lab	2
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
Select one of the following two options:		5
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
Select one of the following four options:		3-5
DIT 140 & DIT 141	Hydraulics and Hydraulics Lab	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
DIT 121	Introduction to Maintenance Welding Lab	

DIT 150	Power Trains	3
DIT 151	Power Trains Lab	2
DIT 160	Steering and Suspension	3
DIT 161	Steering and Suspension Lab	2
DIT 180	Brakes	3
DIT 181	Brakes Lab	2
Select one of the following two options:		5
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
Subtotal		44-49
<b>Total Credits</b>		<b>50-55</b>

## Agriculture Equipment Mechanic Helper - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053109

Course	Title	Credits
Select one of the following two options:		5
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
Select one of the following two options:		5
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
DIT 152	Powertrain for Construction Equipment	3
DIT 153	Powertrain for Construction Equipment Lab	2
<b>Total Credits</b>		<b>20</b>

## Construction Equipment Mechanic Helper - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053019

Course	Title	Credits
Select one of the following two options:		5
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
Select one of the following two options:		5
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
DIT 152	Powertrain for Construction Equipment	3
DIT 153	Powertrain for Construction Equipment Lab	2
DIT 123	Undercarriage Lab	3
<b>Total Credits</b>		<b>23</b>

## Diesel Engine Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053079

Course	Title	Credits
Select one of the following two options:		5
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
Electives (Diesel Courses/Industrial Education Core)		2
<b>Total Credits</b>		<b>12</b>

## Diesel Mechanics Assistant - Certificate

**Offered at:** Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053189



Course	Title	Credits
DIT 103	Preventive Maintenance Lab	2
DIT 110	Introduction To Diesel Engines	3
DIT 111	Introduction To Diesel Engines Lab	2
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
DIT 160	Steering and Suspension	3
DIT 161	Steering and Suspension Lab	2
DIT 180	Brakes	3
DIT 181	Brakes Lab	2
DIT 190	Electrical Systems for Diesel Equipment	3
DIT 191	Electrical Systems for Diesel Equipment Lab	2

**Total Credits** 27

## Diesel Steering & Suspension Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053179

Course	Title	Credits
DIT 160	Steering and Suspension	3
DIT 161	Steering and Suspension Lab	2
Electives (Diesel Courses/Industrial Education Core)		7

**Total Credits** 12

## Electrical/Electronics Systems Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053059

Course	Title	Credits
Select one of the following three options:		
BEX 100 & BEX 101	Basic Electricity for Non-Majors and Basic Electricity Lab for Non-Majors	5
ADX 120 & ADX 121	Basic Automotive Electricity and Basic Automotive Electricity Lab	
ELT 110	Circuits I	

Select one of the following two options: 5

DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	

Electives (Diesel Courses/Industrial Education Core) 2

**Total Credits** 12

## Fluid Power Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053119

Course	Title	Credits
FPX 100 or DIT 140	Fluid Power Hydraulics	3
FPX 101 or DIT 141	Fluid Power Lab Hydraulics Lab	2

Electives (Diesel Courses/Industrial Education Core) 7

**Total Credits** 12

## Heavy Duty Brake Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053039

Course	Title	Credits
DIT 180	Brakes	3
DIT 181	Brakes Lab	2

Electives (Diesel Courses/Industrial Education Core) 7

**Total Credits** 12

## Heavy Duty Drive Train Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College

College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053089

Course	Title	Credits
DIT 150	Power Trains	3
DIT 151	Power Trains Lab	2
Electives (Diesel Courses/Industrial Education Core)		7
<b>Total Credits</b>		<b>12</b>

## Medium and Heavy Truck Mechanic Helper - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053149

Course	Title	Credits
Select one of the following three options:		5
ADX 120 & ADX 121	Basic Automotive Electricity and Basic Automotive Electricity Lab	
BEX 100 & BEX 101	Basic Electricity for Non-Majors and Basic Electricity Lab for Non-Majors	
ELT 110	Circuits I	
Select one of the following two options:		5
ADX 150 & ADX 151	Engine Repair and Engine Repair Lab	
DIT 110 & DIT 111	Introduction To Diesel Engines and Introduction To Diesel Engines Lab	
Select one of the following two options:		5
ADX 260 & ADX 261	Electrical Systems and Electrical Systems Lab	
DIT 190 & DIT 191	Electrical Systems for Diesel Equipment and Electrical Systems for Diesel Equipment Lab	
DIT 112	Diesel Engine Repair	3
DIT 113	Diesel Engine Repair Lab	2
DIT 160	Steering and Suspension	3
DIT 161	Steering and Suspension Lab	2
DIT 180	Brakes	3
DIT 181	Brakes Lab	2
<b>Total Credits</b>		<b>30</b>

## Mobile Air Conditioning Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053169

Course	Title	Credits
ADX 170	Climate Control	3
ADX 171	Climate Control Lab	1
Electives (Diesel Courses/Industrial Education Core)		8
<b>Total Credits</b>		<b>12</b>

## Preventive Maintenance Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053199

Course	Title	Credits
DIT 103	Preventive Maintenance Lab	2
Electives (Diesel Courses/Industrial Education Core)		11
<b>Total Credits</b>		<b>13</b>

## Undercarriage Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4706053099

Course	Title	Credits
DIT 123	Undercarriage Lab	3
Electives (Diesel Courses/Industrial Education Core)		9
<b>Total Credits</b>		<b>12</b>

## Digital Printing Technology

The 3D Printing Technician – Level I certificate prepares individuals to design for and apply 3D printing technology, also known as additive manufacturing, towards a host of basic applications. Areas of study will incorporate a foundational understanding of the technology, the equipment, thermoplastics and other materials, design applications, related software, business applications, scanning technology, and other related concepts. Upon completion of the certificate, students will be versed in the broad impact of the technology and prepared for an entry level career within an industry that applies 3D printing technology in some fashion.

### Certificates

- 3D Printing Technician – Level I - Certificate (p. 206)

## 3D Printing Technician – Level I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1506073059

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Select one of the following two options:		3-5
DPT 100	Introduction to 3D Printing Technology	3
DPT 102 & CIT 105	3D Printing Technology Fundamentals and Introduction to Computers	
BAS 160 or BAS 170	Introduction to Business Entrepreneurship	
DPT 150	Introduction to Engineering Mechanics for 3D Printing	3
DPT 280	Special Projects for 3D Printing, Level I	1
Elective: Any technical, entry level course within a field where 3D printing applications exist		3
Elective: Any technical, entry level course within a field where 3D printing applications exist		3
<b>Total Credits</b>		<b>16-18</b>

## Education

The Associate in Applied Science Degree (AAS) – Education: Educator Preparation is a pathway designed for students who wish to begin coursework at a community and technical college and then apply for transfer admission to a teacher education program at a four-year college or university.

## Degrees

- Education - AAS (p. 206)
- Educator Preparation Track (p. 206)

## Education - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1315017019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<i>General Education</i>		
ENG 101	Writing I	3
ENG 102	Writing II	3
COM 181 or COM 252	Basic Public Speaking Introduction to Interpersonal Communication	3
Arts & Humanities <sup>1</sup>		3-4
HIS 108 or HIS 109	History of the United States Through 1865 History of the United States Since 1865	3
MAT 146 or MAT 150 or MAT 141	Contemporary College Mathematics College Algebra Liberal Arts Mathematics	3
Natural Science <sup>2</sup>		7
PSY 110	General Psychology	3
Social & Behavioral Sciences <sup>1</sup>		6
General Education Subtotal		34-35
<i>Students must completed one of the tracks listed below to complete the AAS requirements.</i>		

## Educator Preparation Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 131501703

Course	Title	Credits
General Education Subtotal		34-35
<i>Technical Core or Support Core (Common)</i>		
Digital Literacy <sup>3</sup>		3
EDU 201	Introduction to American Education	3
EDP 202	Human Development and Learning	3
Select one of the following two options:		3
EDP 203	Teaching Exceptional Learners in Regular Classrooms	15
EDP 260	Motivation and Classroom Management <sup>4</sup>	
Technical or Support Electives		15
<b>Total Credits</b>		<b>61-62</b>

<sup>1</sup> At least one course must be selected from the identified Cultural Competence course list.

- <sup>2</sup> Must include at least one Natural Science course with a laboratory experience.
- <sup>3</sup> Students must fulfill the Digital Literacy requirement by means specified in the KCTCS Catalog. A student who fulfills the Digital Literacy requirement by a means other than earning credit for an approved KCTCS digital literacy course must take three (3) credit hours of coursework approved by the program coordinator.
- <sup>4</sup> EDP 260 Motivation and Classroom Management (3 credit hours) is intended for Jefferson Community & Technical College students transferring to the University of Louisville (excluding Special Education majors.)

## Electrical Technology

The Electrical Technology Program focuses on preparing students for various entry-level electrical positions in industry and the building trades. The study of electrical theory in the classroom and the practical application of that theory in labs provide the foundation of this program. This program is versatile in offering different tracks within the Associate of Applied Science degree. A variety of certificates and diplomas serve as pathways to the AAS degree tracks or as meeting specific training needs.

Students enrolled in the Electrical Technology program are required to achieve a minimum grade of "C" in the technical core and in those courses selected as technical electives.

## Degrees

- Electrical Technology - AAS (p. 207)
  - Automated Industrial Controls Technician Track (p. 208)
  - Construction Electrician Track (p. 208)
  - Industrial Automation and Process Control Technician Track (p. 209)
  - Industrial Automation and Robotics Technician Track (p. 209)
  - Industrial Electrician Track (p. 210)

## Diplomas

- Electrical Technology - Diploma (p. 210)
  - Automated Industrial Controls Technician Track (p. 211)
  - Construction Electrician Track (p. 211)
  - Industrial Automation and Process Control Technician Track (p. 212)
  - Industrial Automation and Robotics Technician Track (p. 212)
  - Industrial Electrician Track (p. 213)

## Certificates

- Alternative Energies Level I - Certificate (p. 213)
- Automated Industrial Controls Technician Level I - Certificate (p. 214)
- Automated Industrial Controls Technician Level II - Certificate (p. 214)
- Construction Electrician Level I - Certificate (p. 215)
- Construction Electrician Level II - Certificate (p. 215)
- Construction Electrician Level III - Certificate (p. 216)
- Industrial Automation and Process Control Technician Level I - Certificate (p. 217)
- Industrial Automation and Process Control Technician Level II - Certificate (p. 217)

- Industrial Automation and Robotics Technician Level I - Certificate (p. 217)
- Industrial Automation and Robotics Technician Level II - Certificate (p. 217)
- Industrial Electrician Level I - Certificate (p. 218)
- Industrial Electrician Level II - Certificate (p. 218)
- Industrial Networking - Certificate (p. 219)
- Voice and Data Wiring Installer Level I - Certificate (p. 219)
- Voice and Data Wiring Installer Level II - Certificate (p. 219)
- Voice and Data Wiring Technician - Certificate (p. 219)

## Electrical Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603027039

Students enrolled in the Electrical Technology program are required to achieve a minimum grade of "C" in the technical core and in those courses selected as technical electives.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following three options:		3
MAT 116	Technical Mathematics	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Subtotal		15
<b>Technical Core</b>		
EET 119	Basic Electricity	5
or ELT 110	Circuits I	
EET 250	National Electrical Code	4
Select one of the following four options:		11-14
<i>Option 1</i>		
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
<i>Option 2</i>		
EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
<i>Option 3</i>		

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 266 & EET 267	Rotating Machinery and Transformers and Rotating Machinery and Transformers Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
<i>Option 4</i>		
EET 274 & EET 275	Electrical Motor Controls and Electrical Motor Controls Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
EET 127	Electrical Technology Capstone	1
Digital Literacy <sup>1</sup>		3
General Education and Technical Core Subtotal		39-42
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

<sup>1</sup> If any student successfully tests out of Digital Literacy, he/she must take an additional Technical Course approved by the Electrical Program Coordinator.  
Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course.

## Automated Industrial Controls Technician Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302704

Course	Title	Credits
General Education and Technical Core Subtotal		39-42
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Technical Electives		16
<b>Total Credits</b>		<b>62-67</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

### Technical Electives for the Automated Industrial Controls Technician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2

ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5

## Construction Electrician Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302702

Course	Title	Credits
General Education and Technical Core Subtotal		39-42
Select one of the following two options:		7-8
<i>Option 1</i>		
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
<i>Option 2</i>		
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
Technical Electives		16
<b>Total Credits</b>		<b>62-66</b>



In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for Construction Electrician Track

Course	Title	Credits
All EET Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4

## Industrial Automation and Process Control Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302705

Course	Title	Credits
General Education and Technical Core Subtotal		39-42
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
FPX 100	Fluid Power	3

FPX 101	Fluid Power Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
Technical Electives		9
<b>Total Credits</b>		<b>65-68</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for the Automation and Process Control Technician Track

Course	Title	Credits
All ETT Prefix Courses		
All IMT Prefix Courses		
ELT 103	Introduction to Engineering	3
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3

## Industrial Automation and Robotics Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302706

Course	Title	Credits
General Education and Technical Core Subtotal		39-42
EET 290	Troubleshooting Industrial Controls and Motors	4
Select one of the following two options:		4
EET 200 & EET 201	Robotic Systems I and Robotic Systems II	
IMT 200	Industrial Robotics and Robotic Maintenance	
EET 202	Robotic Maintenance	2
EET 203	Robotic Vision Systems	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
EET 280	Multi-Platform Programmable Logic Controllers	4
Technical Electives		6
<b>Total Credits</b>		<b>65-68</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for Industrial Automation and Robotics Technician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		

FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2

## Industrial Electrician Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302701

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		39-42
Select one of the following two options:		7-8
<i>Option 1</i>		
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
<i>Option 2</i>		
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
Technical Electives		14
<b>Total Credits</b>		<b>64-68</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for Industrial Electrician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4

ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5

## Electrical Technology - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603024049

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Heritage/Humanities	
	Oral Communications	
<i>Area 2</i>		
Select one of the following three options:		3
MAT 116	Technical Mathematics	
MAT 126	Technical Algebra and Trigonometry	
	Higher Level Quantitative Reasoning Course	
Subtotal		6
<b>Technical Core</b>		
EET 119 or ELT 110	Basic Electricity Circuits I	5
EET 250	National Electrical Code	4
Select one of the following four options:		11-14
<i>Option 1</i>		

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab

*Option 2*

EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab

*Option 3*

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab
EET 266 & EET 267	Rotating Machinery and Transformers and Rotating Machinery and Transformers Lab
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab

*Option 4*

EET 274 & EET 275	Electrical Motor Controls and Electrical Motor Controls Lab
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab

EET 127	Electrical Technology Capstone	1
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EET 298	Practicum	1-4
or EET 299	Cooperative Education Program	

Digital Literacy <sup>1</sup>		3
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General Education and Technical Core Subtotal		31-37
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*Students must complete one of the tracks listed below to complete the diploma requirements.*

<sup>1</sup> Digital Literacy must be demonstrated either by competency exam or by completing a digital literacy course. If any student successfully tests out of Digital Literacy he/she must take an additional Technical Course approved by the Electrical Program Coordinator.

## Automated Industrial Controls Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302404

Course	Title	Credits
General Education and Technical Core Subtotal		31-37
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	

Technical Electives	12
<b>Total Credits</b>	<b>50-58</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for Automated Industrial Controls Technician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5

## Construction Electrician Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302402

Course Required	Title	Credits
General Education and Technical Core Subtotal		31-37
Select one of the following two options:		7-8
<i>Option 1</i>		
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
<i>Option 2</i>		
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
Technical Electives		12
<b>Total Credits</b>		<b>50-57</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

### Technical Electives for Construction Electrician Track

Course	Title	Credits
All EET Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3

ISX 101	Introduction to Industrial Safety	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4

## Industrial Automation and Process Control Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302405

Course	Title	Credits
General Education and Technical Core Subtotal		31-37
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
Technical Electives		6
<b>Total Credits</b>		<b>54-60</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

### Technical Electives for Industrial Automation and Process Control Technician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ELT 103	Introduction to Engineering	3
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3

## Industrial Automation and Robotics Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302406

Course	Title	Credits
General Education and Technical Core Subtotal		31-37
EET 290	Troubleshooting Industrial Controls and Motors	4
Select one of the following two options:		4
EET 200 & EET 201	Robotic Systems I and Robotic Systems II	
IMT 200	Industrial Robotics and Robotic Maintenance	
EET 202	Robotic Maintenance	2

EET 203	Robotic Vision Systems	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
EET 280	Multi-Platform Programmable Logic Controllers	4
Technical Electives		3
<b>Total Credits</b>		<b>54-60</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for Industrial Automation and Robotics Technician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2

## Industrial Electrician Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 460302401

Course	Title	Credits
<b>Required</b>		
General Education and Technical Core Subtotal		31-37
Select one of the following two options:		7-8
<i>Option 1</i>		
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
<i>Option 2</i>		
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
Technical Electives		11
<b>Total Credits</b>		<b>53-60</b>

In the situation that any course that has been used in the Technical Core is also repeated in the Track, the student must select a course with the same number of hours from the technical elective list or a course approved by the program coordinator.

## Technical Electives for Industrial Electrician Track

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5

## Alternative Energies Level I-Certificate

**Offered at:** Big Sandy Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4603023179

Course	Title	Credits
EET 119	Basic Electricity	5
or ELT 110	Circuits I	
Select one of the following 2 options:		7-8



*Option 1*

EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	

*Option 2*

EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
EET 250	National Electrical Code	4
EET 295	Alternative Energy Photovoltaic and Wind Electrical Generations Systems	4

**Total Credits** **20-21**

## Automated Industrial Controls Technician Level I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023079

Course Required	Title	Credits
ELT 110 or EET 119	Circuits I Basic Electricity	5
EET 250	National Electrical Code	4
Select one of the following four options:		7-11

*Option 1*

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	

*Option 2*

EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
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*Option 3*

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 266 & EET 267	Rotating Machinery and Transformers and Rotating Machinery and Transformers Lab	

*Option 4*

EET 274 & EET 275	Electrical Motor Controls and Electrical Motor Controls Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	

Digital Literacy Course <sup>1</sup> 3

**Total Credits** **19-23**

<sup>1</sup> If any student successfully tests out of Digital Literacy, he/she must take an additional Technical Course approved by the Electrical Program Coordinator.

## Automated Industrial Controls Technician Level II - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023089

Course Required	Title	Credits
ELT 110 or EET 119	Circuits I Basic Electricity	5
EET 250	National Electrical Code	4
Select one of the following four options:		11-14

*Option 1*

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	

*Option 2*

EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	

*Option 3*

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 266 & EET 267	Rotating Machinery and Transformers and Rotating Machinery and Transformers Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	

*Option 4*

EET 274 & EET 275	Electrical Motor Controls and Electrical Motor Controls Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2

Digital Literacy Course <sup>1</sup> 3

**Total Credits** **27-30**

<sup>1</sup> If any student successfully tests out of Digital Literacy, he/she must take an additional Technical Course approved by the Electrical Program Coordinator.

## Construction Electrician Level I- Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023049

Course	Title	Credits
EET 119 or ELT 110	Basic Electricity Circuits I	5
Select one of the following two options:		4-7
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
Technical Electives		5
<b>Total Credits</b>		<b>14-17</b>

## Technical Electives for Construction Electrician Level I and II Certificates

Course	Title	Credits
All EET Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3

ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3

## Construction Electrician Level II - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023069

Course	Title	Credits
<b>Required</b>		
EET 119 or ELT 110	Basic Electricity Circuits I	5
Select one of the following two options:		7-8
<i>Option 1</i>		
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
<i>Option 2</i>		
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
EET 250	National Electrical Code	4
Technical Electives		5
<b>Total Credits</b>		<b>21-22</b>

## Technical Electives for Construction Electrician Level I and II Certificates

Course	Title	Credits
All EET Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2

BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3

## Construction Electrician Level III - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023029

Course	Title	Credits
<b>Required</b>		
EET 119 or ELT 110	Basic Electricity Circuits I	5
EET 250	National Electrical Code	4
Select one of the following two options:		7-8
<i>Option 1</i>		
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
<i>Option 2</i>		
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
Select one of the following four options:		11-14
<i>Option 1</i>		

EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
<i>Option 2</i>		
EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
<i>Option 3</i>		
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 266 & EET 267	Rotating Machinery and Transformers and Rotating Machinery and Transformers Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
<i>Option 4</i>		
EET 274 & EET 275	Electrical Motor Controls and Electrical Motor Controls Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
Technical Electives		5
<b>Total Credits</b>		<b>32-36</b>

## Technical Electives for Electrical Construction Certificate

Course	Title	Credits
All EET Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3

ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3

## Industrial Automation and Process Control Technician Level I-Certificate

**Offered at:** Elizabethtown Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4603023159

Course	Title	Credits
EET 119 or ELT 110	Basic Electricity Circuits I	5
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	5
<b>Total Credits</b>		<b>18</b>

## Industrial Automation and Process Control Technician Level II-Certificate

**Offered at:** Elizabethtown Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4603023169

Course	Title	Credits
EET 119 or ELT 110	Basic Electricity Circuits I	5
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
Choose one of the following 2 options:		7-8
<i>Option 1</i>		
EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
<i>Option 2</i>		
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
<b>Total Credits</b>		<b>25-26</b>

## Industrial Automation and Robotics Technician Level I-Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4603023139

Course	Title	Credits
EET 119 or ELT 110	Basic Electricity Circuits I	5
Choose one of the following 3 options:		4-5
EET 200 & EET 201	Robotic Systems I and Robotic Systems II	
IMT 200	Industrial Robotics and Robotic Maintenance	
ELT 260	Robotic and Industrial Automation	
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
<b>Total Credits</b>		<b>14-15</b>

## Industrial Automation and Robotics Technician Level II-Certificate

**Offered at:** Elizabethtown Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4603023149

Course	Title	Credits
EET 119 or ELT 110	Basic Electricity Circuits I	5
Choose one of the following 3 options:		4-5
EET 200 & EET 201	Robotic Systems I and Robotic Systems II	
IMT 200	Industrial Robotics and Robotic Maintenance	
ELT 260	Robotic and Industrial Automation	
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
EET 202	Robotic Maintenance	2
EET 203	Robotic Vision Systems	2
Choose one of the following 2 options:		7-8
<i>Option 1</i>		
EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
<i>Option 2</i>		
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
<b>Total Credits</b>		<b>25-27</b>

## Industrial Electrician Level I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023039

Course	Title	Credits
EET 119	Basic Electricity	5
or ELT 110	Circuits I	
Technical Electives		3
<b>Total Credits</b>		<b>8</b>

## Technical Electives for Industrial Electrician Level I and II Certificates

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3

FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5

## Industrial Electrician Level II - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4603023059

Course	Title	Credits
EET 119	Basic Electricity	5
or ELT 110	Circuits I	
Technical Electives		8
<b>Total Credits</b>		<b>13</b>

## Technical Electives for INDUSTRIAL ELECTRICIAN Level I and II Certificates

Course	Title	Credits
All EET Prefix Courses		
All IMT Prefix Courses		
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
BBT 100	Introduction to HFC/Cable-TV	3
BBT 200	Introduction to Cellular Technology	2
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 120	Basic Blueprint Reading	3
BRX 220	Blueprint Reading for Construction	3
CAD 100	Introduction to Computer Aided Design	3
CMM 114	Fundamentals of Machine Tools	6
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
ELT 114	Circuits II	5
ELT 120	Digital I	3
ELT 210	Devices I	4



ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ELT 232	Computer Software Maintenance	3
ELT 234	Computer Hardware Maintenance	3
ELT 260	Robotic and Industrial Automation	5
ELT 265	Applied Fluid Power	3
ESP 101	Introduction to Energy Systems	3
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5

## Industrial Networking - Certificate

**Offered at:** Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4603023189

Course	Title	Credits
CIT 111	Computer Hardware and Software	4
CIT 160 or CIT 161	Intro to Networking Concepts Introduction to Networks	4
CIT 167	Switching & Routing Essentials	4
EET 119 or ELT 110	Basic Electricity Circuits I	5
Select one of the following three options:		4-7
<i>Option 1</i>		
EET 274 & EET 275	Electrical Motor Controls and Electrical Motor Controls Lab	
<i>Option 2</i>		
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
<i>Option 3</i>		
EET 268 & EET 269	Rotating Machinery Electrical Motor Controls I and Rotating Machinery and Motor Controls I Lab	
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
<b>Total Credits</b>		<b>25-28</b>

## Voice and Data Wiring Installer Level I - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical

College, Hopkinsville Community College, Somerset Community College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4603023099

Course	Title	Credits
Digital Literacy Course <sup>1</sup>		3
Select one of the following two options:		4-7
EET 154 & EET 155	Electrical Construction I and Electrical Construction I Lab	
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
EET 110	Voice & Data Installer Level I	4
Select one of the following options:		4-5
EET 119	Basic Electricity	
ELT 110	Circuits I	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
<b>Total Credits</b>		<b>15-19</b>

<sup>1</sup> If any student successfully tests out of Digital Literacy, he/she must take an additional Technical Course approved by the Electrical Program Coordinator.

## Voice and Data Wiring Installer Level II - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Somerset Community College

**Program Plan Number:** 4603023109

Course	Title	Credits
Select one of the following two options:		4-7
EET 252 & EET 253	Electrical Construction II and Electrical Construction II Lab	
EET 254 & EET 255	Electrical Construction and Electrical Construction Lab	
ETT 114	Voice & Data Installer Level II	4
EET 116	Fiber Optics Systems	3
EET 118	Residential Network Wiring	3
<b>Total Credits</b>		<b>14-17</b>

## Voice and Data Wiring Technician - Certificate

**Offered at:** Bluegrass Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Somerset Community College

**Program Plan Number:** 4603023119

Course	Title	Credits
ETT 120	Project Management	3
ETT 122	Voice & Data Installer Technician	3

ETT 123	Voice & Data Installer Technician Lab	2
EET 116	Fiber Optics Systems	3
ETT 199		3
<b>Total Credits</b>		<b>14</b>

## Emergency Medical Services - Paramedic

Provides a comprehensive course of study that prepares the graduate for licensure as a Paramedic (EMTP). The curriculum is structured based on the National EMS Education Standards and regulations set forth by the Kentucky Board of Emergency Medical Services (KBEMS). The three-phase curriculum is designed to provide the student with the cognitive knowledge, psychomotor skills, and affective behaviors necessary to competently perform as a Paramedic. The EMS program prepares students to function in the emergency medical profession as a Paramedic in a variety of environments. Graduates primarily provide pre-hospital emergency care to acutely ill and/or injured individuals while working on an ambulance, mobile advanced life support unit, industrial on-site unit, fire department, emergency department, and other agencies. Graduates are eligible to apply to take the National Registry Paramedic Exam. Students may earn either a Certificate or Associate in Applied Science Degree at the Paramedic level. Credit may be awarded to currently practicing paramedics towards the Associate in Applied Science Degree. Enrollment in this program is limited; therefore, a selective admissions process is followed. Students are required to hold current unrestricted certification as an EMT in Kentucky or hold current unrestricted registration with the National Registry EMT as an EMT to be eligible for paramedic program admission.

Acceptance into the EMS-Paramedic Program is based upon a selective admissions process. In order to be considered for admission, applicants must comply with college and program admission requirements. Applicants must present current, unrestricted state certification or proof of National Registry of EMT eligibility to become state certified. Licensed paramedics may receive credit towards the Associate of Applied Science in Emergency Medical Services – Paramedic. When eligible, the licensed paramedic will be awarded thirty-eight (38) semester credit hours upon the completion of:

- applying to the college of choice;
- submitting a letter of intent and a copy of the required licensure/certification document to the program coordinator with subsequent validation by the Registrar; and
- completing at least nine (9) credit hours from the degree-granting institution.

Credit will be awarded as follows:

Course	Title	Credits
EMS 200 & EMS 210 or EMS 201	Introduction to Paramedicine and Emergency Pharmacology Principles of Paramedicine I	6-7
EMS 240 & EMS 250 or EMS 202	Medical Emergencies I and Medical Emergencies II Principles of Paramedicine II	5-6
EMS 220 & EMS 260 & EMS 275 or EMS 205	Cardiovascular Emergencies and Special Populations and Seminar in Advanced Life Support (ALS) Principles of Paramedicine III	6-7

EMS 230 & EMS 270 or EMS 208	Traumatic Emergencies and EMS Operations Principles of Paramedicine IV	5-6
EMS 285 or EMS 212	Field Internship & Summation Practicum III-Field	4-6
EMS 211 or EMS 204	Fundamentals Lab Paramedic Lab I	2
EMS 221 or EMS 207	Cardiac and Trauma Lab Paramedic Lab II	1
EMS 231 or EMS 209	Medical Lab Paramedic Lab III	1-2
EMS 215 or EMS 203	Clinical Experience I Practicum I-Clinical	1
EMS 225 & EMS 235 or EMS 206	Clinical Experience II and Clinical Experience III Practicum II-Clinical	3

Students must meet the twenty-five percent (25%) residency requirements of the degree-granting institution.

Students select their career option preference, certificate or degree, either during advising or upon admission to the program, but may choose to change their career path while in the program without reapplying for admission to the college.

## Degrees

- Emergency Medical Services - Paramedic - AAS (p. 220)

## Certificates

- Advanced Emergency Medical Technician - Certificate (p. 221)
- Electrocardiogram Technician - Certificate (p. 221)
- Emergency Medical Services - Paramedic - Certificate (p. 221)
- Emergency Medical Technician - Certificate (p. 242)

## Emergency Medical Services - Paramedic - AAS

**Offered at:** Bluegrass Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5109047029

Course	Title	Credits
ENG 101	Writing I	3
PSY 110	General Psychology	3
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher Quantitative Reasoning Course		
Oral Communications		3
Heritage or Humanities		3
AHS 115	Medical Terminology	3

or CLA 131	Medical Terminology from Greek and Latin
Digital Literacy Course or demonstrated competency	0-3
Select one of the following two options:	38-39

**Option 1**

EMS 200 & EMS 210	Introduction to Paramedicine and Emergency Pharmacology
EMS 211	Fundamentals Lab
EMS 215	Clinical Experience I
EMS 221	Cardiac and Trauma Lab
EMS 231	Medical Lab
EMS 230 & EMS 270	Traumatic Emergencies and EMS Operations
EMS 240 & EMS 250	Medical Emergencies I and Medical Emergencies II
EMS 220 & EMS 260 & EMS 275	Cardiovascular Emergencies and Special Populations and Seminar in Advanced Life Support (ALS)
EMS 225 & EMS 235	Clinical Experience II and Clinical Experience III
EMS 285	Field Internship & Summation

**Option 2**

EMS 201	Principles of Paramedicine I
EMS 204	Paramedic Lab I
EMS 203	Practicum I-Clinical
EMS 207	Paramedic Lab II
EMS 209	Paramedic Lab III
EMS 208	Principles of Paramedicine IV or EMS 2081 Principles of Paramedicine IV Part I & EMS 2082 and Principles of Paramedicine IV Part 2
EMS 202	Principles of Paramedicine II
EMS 205	Principles of Paramedicine III
EMS 206	Practicum II-Clinical
EMS 212 & EMS 213	Practicum III-Field and Principles of Paramedicine V

<b>Total Credits</b>	<b>60-64</b>
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<sup>1</sup> BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) & BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours) may be substituted for BIO 135 Basic Anatomy and Physiology with Laboratory (4 credit hours)

## Advanced Emergency Medical Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5109043070

Course	Title	Credits
EMS 120	Seminar in Advanced Emergency Medical Technician - AEMT	4

EMS 121	Advanced Emergency Medical Technician (AEMT) Laboratory Skills	2
EMS 125	Advanced EMT Clinical Experience	3
EMS 130	Advanced Emergency Medical Technician (AEMT) Field Experience	3

<b>Total Credits</b>	<b>12</b>
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## Electrocardiogram Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 5109043060

Course	Title	Credits
EMS 150	Electrocardiogram Technology	5
<b>Total Credits</b>		<b>5</b>

## Emergency Medical Services - Paramedic - Certificate

**Offered at:** Bluegrass Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5109043040

Course	Title	Credits
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
AHS 115	Medical Terminology	3
Select one of the following two options:		38-42

**Option 1**

EMS 200 & EMS 210	Introduction to Paramedicine and Emergency Pharmacology
EMS 211	Fundamentals Lab
EMS 215	Clinical Experience I
EMS 221	Cardiac and Trauma Lab
EMS 231	Medical Lab
EMS 230 & EMS 270	Traumatic Emergencies and EMS Operations
EMS 240 & EMS 250	Medical Emergencies I and Medical Emergencies II
EMS 220 & EMS 260 & EMS 275	Cardiovascular Emergencies and Special Populations and Seminar in Advanced Life Support (ALS)
EMS 225 & EMS 235	Clinical Experience II and Clinical Experience III
EMS 285	Field Internship & Summation

**Option 2**

EMS 201	Principles of Paramedicine I
EMS 204	Paramedic Lab I
EMS 203	Practicum I-Clinical
EMS 207	Paramedic Lab II
EMS 209	Paramedic Lab III
EMS 208	Principles of Paramedicine IV or EMS 2081 Principles of Paramedicine IV Part I & EMS 2082 and Principles of Paramedicine IV Part 2
EMS 202	Principles of Paramedicine II
EMS 205	Principles of Paramedicine III
EMS 206	Practicum II-Clinical
EMS 212 & EMS 213	Practicum III-Field and Principles of Paramedicine V
<b>Total Credits</b>	
<b>45-49</b>	

<sup>1</sup> BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) & BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours) may be substituted for BIO 135 Basic Anatomy and Physiology with Laboratory (4 credit hours)

## Energy Technologies

Offers an option for students to build a career in the energy field. The degree incorporates multiple tracks for certificates associated with different energy careers, allowing students to match their strengths and interests with an appropriate plan of study. It is focused on preparing graduates to enter the workforce in positions such as an entry-level utility apprentice, line maintenance technician, transformer/relay technician, fiber optic technician, outside plant fiber optic technician, network communications technician, voice and data wiring technician, or renewable energy and energy efficiency specialist. The degree provides a broad foundation across many facets of utility and communications technologies, resulting in a multi-skilled technician valued by the workforce. Hands-on instruction is used to teach students aspects of smart grid technology, fiber optics installation, utility operation, line maintenance, underground operations, substation operations, transmission distribution, solar/photovoltaic systems installation, design and placement of wind energy systems, energy efficiency analysis, electrical energy efficiency control technologies, and job safety. The technical certificate tracks are complemented by an operations management certificate, which provides background knowledge of business operations.

## Degrees

- Energy Technologies - AAS (p. 222)

## Certificates

- Energy Efficiency and Analysis - Certificate (p. 222)
- Energy Efficiency Electrical Controls Technician - Certificate (p. 223)
- Energy Utility Technician - Certificate (p. 223)
- Outside Plant Technician - Certificate (p. 223)
- Solar/Photovoltaic Technologies - Certificate (p. 223)
- Utility Lineworker - Certificate (p. 223)
- Wind System Technologies - Certificate (p. 223)

## Energy Technologies - AAS

**Offered at:** Gateway Community and Technical College

**Program Plan Number:** 1517017010

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Any Higher Level Quantitative Reasoning Courses		
Select one of the following two options:		3-4
PHY 171	Applied Physics	
Natural Sciences		
Heritage/Humanities		3
Oral Communications		3
Social/Behavioral Sciences		3
Subtotal		18-19
<b>Core</b>		
BAS 160	Introduction to Business	3
EET 150	Transformers	2
EET 151	Transformers Lab	1
ELT 110	Circuits I	5
EET 110	Voice & Data Installer Level I	4
ISX 101	Introduction to Industrial Safety	3
EGY 170	Energy Utility Technologies	4
EGY 120	Outside Plant Communications	4
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Subtotal		26-29
<b>Technical Electives</b>		
Select 16 credit hours from the following four options (not including courses in the technical core) or as approved by the program coordinator:		16
COE 199	Cooperative Education: (Topic) (up to 8 credits)	
APT 258	Lineman Technology II	
APT 259	Lineman Technology II Lab	
Subtotal		16
<b>Total Credits</b>		<b>60-64</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by successfully completing a digital literacy course.

## Energy Efficiency and Analysis - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College

**Program Plan Number:** 1517013170

Course	Title	Credits
ACR 170	Heat Load/Duct Design	3
EGY 240	Energy Efficiency and Analysis	4

Digital Literacy Course or demonstrated competency <sup>1</sup>	0-3
<b>Total Credits</b>	<b>7-10</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by successfully completing a digital literacy course.

## Energy Efficiency Electrical Controls Technician - Certificate

**Offered at:** Gateway Community and Technical College

**Program Plan Number:** 1517013110

Course	Title	Credits
EET 154	Electrical Construction I	2
EET 155	Electrical Construction I Lab	2
EET 250	National Electrical Code	4
EET 252	Electrical Construction II	2
EET 253	Electrical Construction II Lab	2
ELT 110	Circuits I	5
EGY 220	Energy Efficiency Electrical Controls	4
<b>Total Credits</b>		<b>21</b>

## Energy Utility Technician - Certificate

**Offered at:** Gateway Community and Technical College

**Program Plan Number:** 1517013130

Course	Title	Credits
EET 150	Transformers	2
EET 151	Transformers Lab	1
ELT 110	Circuits I	5
ISX 101	Introduction to Industrial Safety	3
EGY 170	Energy Utility Technologies	4
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
<b>Total Credits</b>		<b>15-18</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by successfully completing a digital literacy course.

## Outside Plant Technician - Certificate

**Offered at:** Gateway Community and Technical College

**Program Plan Number:** 1517013120

Course	Title	Credits
ELT 110	Circuits I	5
EET 110	Voice & Data Installer Level I	4
ISX 101	Introduction to Industrial Safety	3
EGY 120	Outside Plant Communications	4
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
<b>Total Credits</b>		<b>16-19</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by successfully completing a digital literacy course.

## Solar/Photovoltaic Technologies - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College

**Program Plan Number:** 1517013150

Course	Title	Credits
EET 154	Electrical Construction I	2
EET 155	Electrical Construction I Lab	2
ELT 110	Circuits I	5
EGY 230	Solar / Photovoltaic Technologies	4
<b>Total Credits</b>		<b>13</b>

## Utility Lineworker - Certificate

**Offered at:** Gateway Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1517013160

Course	Title	Credits
EES 101	Basic Electronics	2
EET 150	Transformers	2
EET 151	Transformers Lab	1
EGY 170	Energy Utility Technologies	4
APT 258	Lineman Technology II	3
APT 259	Lineman Technology II Lab	4
<b>Total Credits</b>		<b>16</b>

## Wind System Technologies - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College

**Program Plan Number:** 1517013140

Course	Title	Credits
ELT 110	Circuits I	5
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
EGY 250	Wind/ Turbine Technologies	4
<b>Total Credits</b>		<b>14</b>

## Engineering and Electronics Technology

The Engineering and Electronics Technology program provides course work, competencies and experiences to prepare the students for



success in the areas of Engineering technology, electronics, computer maintenance, mechanical, industrial, computer aided design, robotics and automation, communications, instrumentation, and telephony.

Progress in the Engineering and Electronics Technology program is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Degree

- Engineering and Electronics Technology - AAS (p. 224)
  - Apprenticeship Track (p. 224)
  - Communications Track (p. 225)
  - Computer Aided Design Track (p. 225)
  - Computer Maintenance Track (p. 225)
  - Electronics Track (p. 225)
  - Industrial Track (p. 225)
  - Instrumentation Track (p. 225)
  - Mechanical Track (p. 226)
  - Robotics and Automation Track (p. 226)

## Diplomas

- Apprenticeship - Diploma (p. 226)
- Communications - Diploma (p. 227)
- Computer Maintenance - Diploma (p. 227)
- Digital Telephony - Diploma (p. 228)
- Electronics - Diploma (p. 228)
- Engineering Design Technician - Diploma (p. 229)
- Industrial Electronics - Diploma (p. 229)
- Instrumentation - Diploma (p. 230)
- Mechanical - Diploma (p. 230)
- Robotics and Automation - Diploma (p. 231)

## Certificates

- Automation Technician - Certificate (p. 232)
- CAD Technician - Certificate (p. 232)
- Communications Technician - Certificate (p. 232)
- Computer Maintenance Technician - Certificate (p. 232)
- Digital Telephony Technician - Certificate (p. 232)
- Electronics Technician - Certificate (p. 233)
- Electronics Tester - Certificate (p. 233)
- Industrial Electronics Technician I - Certificate (p. 233)
- Industrial Electronics Technician II - Certificate (p. 233)
- Instrumentation Technician - Certificate (p. 234)
- Maintenance Technician - Certificate (p. 234)
- Mechanical Technician - Certificate (p. 234)
- Robotics and Automation Technician - Certificate (p. 234)

# Engineering and Electronics Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community

and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 1503997019

Progress in the Engineering and Electronics Technology program is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
	Higher Level Quantitative Reasoning Course	
ENG 101	Writing I	3
	Natural Sciences	3
	Social/Behavioral Sciences	3
	Oral Communications	3
	Heritage/Humanities	3
Subtotal		18
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
	Equivalent Course with Consent of Program Coordinator	
ELT 289	Engineering and Electronics Technology Capstone	1
	Digital Literacy <sup>1</sup>	3
Subtotal		24-25
General Education and Technical Core Subtotal		42-43
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

## Apprenticeship Track

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 150399701

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
APS 201	Apprenticeship Studies	24
<b>Total Credits</b>		<b>66-67</b>

## Communications Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College

**Program Plan Number:** 150399708

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 240	Communications Electronics	6
Technical Electives <sup>2</sup>		7
<b>Total Credits</b>		<b>62-63</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Computer Aided Design Track

**Offered at:** Hopkinsville Community College, Jefferson Community and Technical College

**Program Plan Number:** 150399702

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
Technical Electives <sup>2</sup>		12
<b>Total Credits</b>		<b>62-63</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Computer Maintenance Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Somerset Community College

**Program Plan Number:** 150399703

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
Select one of the following two options:		4-6
ELT 234 & ELT 232	Computer Hardware Maintenance and Computer Software Maintenance	
CIT 111	Computer Hardware and Software	
ELT 220	Digital II	3
CIT 160 or CIT 161	Intro to Networking Concepts Introduction to Networks	4

Technical Electives <sup>2</sup>	7
<b>Total Credits</b>	<b>60-63</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Electronics Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 150399707

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
ELT 214	Devices II	4
ELT 220	Digital II	3
Technical Electives <sup>2</sup>		13
<b>Total Credits</b>		<b>62-63</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Industrial Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 150399704

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
ELT 214	Devices II	4
ELT 220	Digital II	3
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
Technical Electives <sup>2</sup>		5
<b>Total Credits</b>		<b>62-63</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Instrumentation Track

**Offered at:** Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 150399709

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
ELT 220	Digital II	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
Technical Electives <sup>2</sup>		7
<b>Total Credits</b>		<b>60-61</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Mechanical Track

**Offered at:** Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 150399706

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
Select one of the following two options:		4-5
ELT 122 & ELT 124	Mechanical Power Transmission Systems and Mechanical Power Transmission Systems Lab	
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
CAD 200	Intermediate Computer Aided Drafting	4
Technical Electives <sup>2</sup>		8
<b>Total Credits</b>		<b>61-65</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Robotics and Automation Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 150399705

Course	Title	Credits
General Education and Technical Core Subtotal		42-43
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
Select one of the following three options:		4-5
ELT 260	Robotic and Industrial Automation	
IMT 200	Industrial Robotics and Robotic Maintenance	

EET 200 & EET 201	Robotic Systems I and Robotic Systems II	
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
Technical Electives <sup>2</sup>		4
<b>Total Credits</b>		<b>61-65</b>

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Apprenticeship - Diploma

This program is not currently offered at a KCTCS College.

**Program Plan Number:** 1503994059

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		

Subtotal	25-27
APS 201      Apprenticeship Studies	24
Subtotal	24
<b>Total Credits</b>	<b>55-57</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

Technical Electives: Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Communications - Diploma

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503994029

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27

ELT 214	Devices II	4
ELT 220	Digital II	3
ELT 240	Communications Electronics	6
Technical Electives <sup>2</sup>		11
Subtotal		24
<b>Total Credits</b>		<b>55-57</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Computer Maintenance - Diploma

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503994049

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	

Equivalent Course with Consent of Program Coordinator	
<b>Subtotal</b>	<b>25-27</b>
Select one of the following:	4-6
ELT 234 & ELT 232	Computer Hardware Maintenance and Computer Software Maintenance
CIT 111	Computer Hardware and Software
ELT 220	Digital II
CIT 160 or CIT 161	Intro to Networking Concepts Introduction to Networks
Technical Electives <sup>2</sup>	9
<b>Subtotal</b>	<b>20-22</b>
<b>Total Credits</b>	<b>51-55</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Digital Telephony - Diploma

This program is not currently offered at a KCTCS College.

**Program Plan Number:** 1503994109

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
<b>Subtotal</b>		<b>6</b>
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100 Introduction to Computer Aided Design <sup>1</sup>		
BRX 120 Basic Blueprint Reading		
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2

COED 198	Practicum
COE 199	Cooperative Education: (Topic)
Equivalent Course with Consent of Program Coordinator	
<b>Subtotal</b>	<b>25-27</b>
ELT 222	Mechanics of Telephony
ELT 224	Basic Telecommunications Installation and Maintenance
ISX 100	Industrial Safety
Equivalent Course with Consent of Program Coordinator	
ELT 214	Devices II
ELT 220	Digital II
<b>Subtotal</b>	<b>16</b>
<b>Total Credits</b>	<b>47-49</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

Technical Electives: Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Electronics - Diploma

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503994019

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
<b>Subtotal</b>		<b>6</b>
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4



CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27
ELT 214	Devices II	4
ELT 220	Digital II	3
Technical Electives <sup>2</sup>		13
Subtotal		20
<b>Total Credits</b>		<b>51-53</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Engineering Design Technician - Diploma

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 1503994089

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	

BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27
CAD 150	Programming in CAD	3-4
or ELT 290	Selected Topics in Engineering Technology: (Topic)	
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
Technical Electives <sup>2</sup>		12
Subtotal		23-24
<b>Total Credits</b>		<b>54-57</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Industrial Electronics - Diploma

**Offered at:** Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503994079

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3

Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27
ELT 214	Devices II	4
ELT 220	Digital II	3
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
Technical Electives <sup>2</sup>		9
Subtotal		24
Total Credits		55-57

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD or any other course as approved by the program coordinator.

# Instrumentation - Diploma

Offered at: Elizabethtown Community and Technical College

Program Plan Number: 1503994099

Course	Title	Credits
General Education		
Area 1		
Select one of the following two options:		3
Written Communication		
Oral Communications		
Area 2		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
Core		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	

IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27
ELT 220	Digital II	3
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
Technical Electives <sup>2</sup>		9
Subtotal		20
Total Credits		51-53

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

# Mechanical - Diploma

Offered at: Jefferson Community and Technical College, Owensboro Community and Technical College

Program Plan Number: 1503994069

Course	Title	Credits
General Education		
Area 1		
Select one of the following two options:		3
Written Communication		
Oral Communications		
Area 2		
Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
Core		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	

IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27
Select one of the following two options:		4-5
ELT 122 & ELT 124	Mechanical Power Transmission Systems and Mechanical Power Transmission Systems Lab	
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
BRX 120	Basic Blueprint Reading	3
CAD 200	Intermediate Computer Aided Drafting	4
Technical Electives <sup>2</sup>		8
Subtotal		22-25
<b>Total Credits</b>		<b>53-58</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Robotics and Automation - Diploma

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 1503994039

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following two options:		3
Written Communication		
Oral Communications		
<i>Area 2</i>		

Select one of the following three options:		3
MAT 150	College Algebra	
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
Subtotal		6
<b>Core</b>		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 120	Digital I	3
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
ELT 289	Engineering and Electronics Technology Capstone	1
Digital Literacy <sup>1</sup>		3
Select one of the following three options:		1-2
COED 198	Practicum	
COE 199	Cooperative Education: (Topic)	
Equivalent Course with Consent of Program Coordinator		
Subtotal		25-27
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100	Fluid Power	
or FPX 101	Fluid Power Lab	
Select one of the following three options:		4-5
ELT 260	Robotic and Industrial Automation	
IMT 200	Industrial Robotics and Robotic Maintenance	
EET 200	Robotic Systems I	
& EET 201	and Robotic Systems II	
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270	Electrical Motor Controls I	
& EET 271	and Electrical Motor Controls I Lab	
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276	Programmable Logic Controllers	
& EET 277	and Programmable Logic Controllers Lab	
Technical Electives <sup>2</sup>		5
Subtotal		20-23
<b>Total Credits</b>		<b>51-56</b>

<sup>1</sup> If a student takes CAD 100 Introduction to Computer Aided Design (3 credit hours) to meet Digital Literacy requirements, he/she **must** take an additional three (3) credit hours of elective credit not used in the selected track.

<sup>2</sup> Any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD, DPT or any other course as approved by the program coordinator.

## Automation Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993229

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
<b>Total Credits</b>		<b>16-18</b>

## CAD Technician - Certificate

**Offered at:** Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 1503993239

Course	Title	Credits
CAD 100	Introduction to Computer Aided Design	3
CAD 200	Intermediate Computer Aided Drafting	4
<b>Total Credits</b>		<b>7</b>

## Communications Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993039

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 120	Digital I	3
ELT 240	Communications Electronics	6
<b>Total Credits</b>		<b>27</b>

## Computer Maintenance Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993029

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 120	Digital I	3
Digital Literacy		3
Select one of the following two options:		4-6
CIT 111	Computer Hardware and Software	
ELT 234 & ELT 232	Computer Hardware Maintenance and Computer Software Maintenance	
<b>Total Credits</b>		<b>15-17</b>

## Digital Telephony Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993119

Course	Title	Credits
ELT 222	Mechanics of Telephony	3
ELT 224	Basic Telecommunications Installation and Maintenance	3
ISX 100	Industrial Safety	3
Select one of the following three options:		5

ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 120	Digital I	3
Digital Literacy		3
<b>Total Credits</b>		<b>20</b>

## Electronics Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993069

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 120	Digital I	3
ELT 220	Digital II	3
<b>Total Credits</b>		<b>24</b>

## Electronics Tester - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Henderson Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993089

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 120	Digital I	3
<b>Total Credits</b>		<b>13</b>

## Industrial Electronics Technician I - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993129

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 120	Digital I	3
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
<b>Total Credits</b>		<b>17</b>

## Industrial Electronics Technician II - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993139

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 210	Devices I	4
ELT 214	Devices II	4
ELT 120	Digital I	3
ELT 220	Digital II	3
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
Select one of the following two options:		4



ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
<b>Total Credits</b>		<b>32</b>

## Instrumentation Technician - Certificate

**Offered at:** Elizabethtown Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993249

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
<b>Total Credits</b>		<b>13</b>

## Maintenance Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993059

Course	Title	Credits
Select one of the following three options:		3-4
CAD 100	Introduction to Computer Aided Design	
BRX 120	Basic Blueprint Reading	
Equivalent Course with Consent of Program Coordinator		
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	

Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
<b>Total Credits</b>		<b>24-27</b>

## Mechanical Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993149

Course	Title	Credits
Select one of the following two options:		3-4
CAD 100	Introduction to Computer Aided Design	
Equivalent Course with Consent of Program Coordinator		
Select one of the following two options:		4-5
ELT 122 & ELT 124	Mechanical Power Transmission Systems and Mechanical Power Transmission Systems Lab	
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
BRX 120	Basic Blueprint Reading	3
CAD 200	Intermediate Computer Aided Drafting	4
<b>Total Credits</b>		<b>17-21</b>

## Robotics and Automation Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1503993099

Course	Title	Credits
Select one of the following three options:		5
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 114	Circuits II	5
ELT 120	Digital I	3
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	

FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
Select one of the following three options:		4-5
ELT 260	Robotic and Industrial Automation	
IMT 200	Industrial Robotics and Robotic Maintenance	
EET 200 & EET 201	Robotic Systems I and Robotic Systems II	
Select one of the following two options:		4
ELT 244	Electrical Machinery and Controls	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
Select one of the following two options:		4
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	

**Total Credits****28-31**

## Environmental Science Technology

This program includes specialized environmental science courses in addition to general education coursework to provide individuals the background necessary for understanding the ecological relationships of the environment. Coursework also emphasizes the application of scientific principles to pollution control problems in accordance with state and federal regulations. Practical lab and field experience in sampling and analysis will be stressed. Emphasis is placed on developing the students' ability to function effectively in a variety of job situations. Graduates of this program will be prepared to sample and analyze air, water and soil in accordance with state and federal regulations. Environmental technicians may be responsible for such job duties as air pollution surveillance, analysis of water and wastewater samples, ground water and surface water assessment, field sampling, data interpretation, and other support services to engineering and science professionals. Graduates in this field may be employed as technicians by federal, state and local governmental units as well as utilities, private industry, and environmental engineering consulting firms.

## Degrees

- Environmental Science Technology - AAS (p. 235)

## Technical Electives

Course	Title	Credits
BIO 150	Principles of Biology I	3
BIO 151	Principles of Biology Laboratory I	2
BTN 101	Introduction to Biotechnology	1
BTN 201	Biotechnology Techniques I	4
BTN 202	Biotechnology Techniques II	4
CHE 180	General College Chemistry II <sup>1</sup>	4
CHE 185	General College Chemistry Laboratory II <sup>1</sup>	1
CHE 270	Organic Chemistry I <sup>1</sup>	3
CHE 275	Organic Chemistry Laboratory I <sup>1</sup>	2
COE 199	Cooperative Education: (Topic) (Internship)	1-3
ECO 201	Principles of Microeconomics <sup>1</sup>	3
ENG 203	Business Writing	3
ENG 204	Technical Writing	3

EST 299	Selected Topics in Environmental Science Technology	1-3
GLY 101	Physical Geology <sup>1</sup>	3
GLY 111	Physical Geology Laboratory <sup>1</sup>	1
MAT 154	Trigonometry	2
MAT 170	Brief Calculus with Applications	3
MAT 175	Calculus I	5
PHY 151	Introductory Physics I <sup>1</sup>	3
STA 220	Statistics	3

Courses not on this list may be approved at the program coordinator's discretion.

<sup>1</sup> Satisfies General Education requirement for A.S degrees

## Environmental Science Technology - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1505077019

### Curriculum Effective Spring Semester

Course	Title	Credits
ENG 101	Writing I <sup>1</sup>	3
ENG 102	Writing II <sup>1</sup>	3
MAT 150	College Algebra <sup>1</sup>	3
Select one of the following two options:		3
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication <sup>1</sup>	
Social/Behavioral Science Course <sup>1</sup>		3
Heritage/Humanities Course		3
Select one of the following Digital Literacy course options:		3
CAD 100	Introduction to Computer Aided Design	
CIT 105	Introduction to Computers	
IMD 100	Digital Information & Communication Technologies	
OST 105	Introduction to Information Systems	
Select one of the following Digital Mapping course options:		3
CIT 125	Intro to Digital Maps	
GIS 120	Introduction to Geographic Information Systems	
CHE 170	General College Chemistry I <sup>1</sup>	4
CHE 175	General College Chemistry Laboratory I <sup>1</sup>	1
EST 140	Introduction to Ecology	3
EST 141	Introduction to Ecology Laboratory	1
EST 160	Hydrological Geology <sup>1</sup>	3
EST 161	Hydrologic Geology Lab <sup>1</sup>	1
EST 170	Environmental Sampling Laboratory	2
EST 220	Pollution of Aquatic Ecosystems	3
EST 230	Aquatic Chemistry Laboratory	2
EST 240	Sources and Effects of Air Pollution	4
EST 250	Solid and Hazardous Waste Management	3
EST 260	Environmental Analysis Laboratory	2
EST 270	Environmental Law and Regulation	3

EST 290	Applied Projects in Environmental Science Technology	2
Environmental Science Technology Elective <sup>2</sup>		6-9
Total Credits		64-67

<sup>1</sup> Satisfies General Education requirement for A.S degrees  
<sup>2</sup> Environmental Science Technology approved elective list (p. 235)

## Environmental Technology

The environmental technology program has been developed in concert with various regulatory agencies, state universities and businesses and industries. Environmental Technicians conducts tests and field investigations to obtain data for use by environmental, engineering, and scientific personnel in determining sources and methods of controlling pollutants in air, water and soil, by utilizing knowledge of agriculture, chemistry, meteorology, engineering principles and applied technologies.

### Certificates

- Waste Processing Attendant - Certificate (p. 236)
- Wastewater Treatment Plant Attendant - Certificate (p. 236)
- Water Treatment Plant Attendant - Certificate (p. 236)

## Waste Processing Attendant - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 1505073029

Course	Title	Credits
ENV 110	Introduction to Environmental Technology	4
ENV 111	Environmental Sampling Techniques Lab	2
ENV 140		4
ENV 141		2
ENV 260		6
ENV 261		3
Total Credits		21

### Electives

Course	Title	Credits
ENV 293		1
ENV 295		2
ENV 297		3

## Wastewater Treatment Plant Attendant - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 1505073039

Course	Title	Credits
ENV 110	Introduction to Environmental Technology	4
ENV 111	Environmental Sampling Techniques Lab	2
ENV 140		4

ENV 141		2
ENV 290	Wastewater Treatment Technology	6
ENV 291	Wastewater Treatment Technology Lab	2
Total Credits		20

### Electives

Course	Title	Credits
ENV 293		1
ENV 295		2
ENV 297		3

## Water Treatment Plant Attendant - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 1505073059

Course	Title	Credits
ENV 110	Introduction to Environmental Technology	4
ENV 111	Environmental Sampling Techniques Lab	2
ENV 140		4
ENV 141		2
ENV 280	Water Treatment Technology	6
ENV 281	Water Treatment Technology Lab	2
Total Credits		20

### Electives

Course	Title	Credits
ENV 293		1
ENV 295		2
ENV 297		3

## Equine

The Equine program prepares students for entrance into the equine workforce. A core curriculum provides students with a foundation of knowledge applicable to any career in the equine workforce. Students will learn the basics of horse care, anatomy and physiology, lameness, health and nutrition and equine business principles. The program of study provides a foundation of education and training geared toward the expectation of employers in the equine industry that provide the basic foundational skills for entry or mid-level employment in the industry.

### Other Certificates

The Equine Industry Workforce Certificate will prepare students for entry to mid-level careers in the equine industry such as a track groom or barn foreman. Students will learn technical skills related to the care and handling of horses through laboratory courses as well as learn the basics of equine anatomy and physiology, equine health and applicable life skills necessary for a career in equine through lecture classes.

The Exercise Rider Certificate will provide students with the basic skills and techniques to prepare them for a career as a professional exercise rider in the Thoroughbred industry. Students will learn technical skills necessary to ride a racehorse through laboratory courses as well as

apply those skills in a co-op at a Thoroughbred breaking and/or training operation.

The Veterinary Assistant Certificate will prepare students for a career as a veterinary assistant in the equine industry. Students will learn technical skills related to the care and handling of horses through laboratory courses as well as learn equine anatomy and physiology, health and lameness through lecture courses. In addition, students will apply competencies in a co-op at a local veterinary clinic/hospital or equine rehabilitation center.

## Degrees

- Equine Studies - AAS (p. 237)

## Certificates

- Equine Industry Workforce - Certificate (p. 237)
- Equine Veterinary Assistant - Certificate (p. 237)
- Exercise Rider - Certificate (p. 237)

## Equine Studies - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 0105077039

**Curriculum Effective Spring Semester**

Course	Title	Credits
<b>General Education</b>		
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Written Communication		3
Subtotal		15
<b>Technical Core</b>		
Digital Literacy		3
EQS 104	Equine Care Lab	3
EQS 110	Basic Equine Physiology	3
EQS 115	Equine Health and Medications	3
EQS 125	Equine Nutrition	3
EQS 200	Lameness in Racehorses	3
EQS 223	Training Principles and Practices	4
EQS 225	Life Skills for Horsemen	3
EQS 240	Equine Legal and Business Principles	3
Technical Electives (See List Below)		18
Subtotal		46
<b>Total Credits</b>		<b>61</b>

## Approved Technical Electives

Course	Title	Credits
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Select two of the following electives which can be any EQM or EQS courses or from the approved list below:

BAS 120	Personal Finance
BAS 160	Introduction to Business
BAS 200	Small Business Management

BAS 201	Customer Service Improvement Skills
BAS 212	Introduction to Financial Management
BAS 282	Principles of Marketing
BAS 287	Supervisory Management
BAS 288	Personal and Organizational Leadership
EQM 120	Introduction to Commercial Breeding Practices
EQS 112	Racehorse Riding Skills I
EQS 113	Racehorse Riding Skills II
EQS 118	Equine Bloodstock
EQS 130	Introduction to the Racing Industry
EQS 299	Equine Studies Cooperative Education

## Equine Industry Workforce - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 0105073039

**Curriculum Effective Spring Semester**

Course	Title	Credits
EQS 104	Equine Care Lab	3
EQS 110	Basic Equine Physiology	3
EQS 115	Equine Health and Medications	3
or EQS 200	Lameness in Racehorses	
EQS 223	Training Principles and Practices	4
EQS 225	Life Skills for Horsemen	3
<b>Total Credits</b>		<b>16</b>

## Equine Veterinary Assistant - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 0105073069

**Curriculum Effective Spring Semester**

Course	Title	Credits
EQS 104	Equine Care Lab	3
EQS 110	Basic Equine Physiology	3
EQS 115	Equine Health and Medications	3
EQS 125	Equine Nutrition	3
EQS 200	Lameness in Racehorses	3
EQS 299	Equine Studies Cooperative Education	3
<b>Total Credits</b>		<b>18</b>

## Exercise Rider - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 0105073019

**Curriculum Effective Spring Semester**

Course	Title	Credits
EQS 104	Equine Care Lab	3
EQS 112	Racehorse Riding Skills I	4
EQS 113	Racehorse Riding Skills II	4
EQS 130	Introduction to the Racing Industry	3
EQS 223	Training Principles and Practices	4
EQS 299	Equine Studies Cooperative Education	3
<b>Total Credits</b>		<b>21</b>

## Exercise Science

The Personal Trainer Certificate Program is comprised of American Council on Exercise (ACE) curricula, and will provide real-world experiences, skills, and knowledge needed to assess, design, and implement a personalized exercise program for clients. Graduates are eligible to take the ACE Personal Trainer Exam to become ACE-certified personal trainers.

CPR and Standard First Aid requirements must be obtained and kept current by completing program approved CPR and Standard First Aid courses prior to completing the certificate.

### Certificates

- Personal Trainer - Certificate (p. 238)

## Personal Trainer - Certificate

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 5109993029

Course	Title	Credits
Select one of the following three options:		3
MIT 103	Medical Office Terminology	
CLA 131	Medical Terminology from Greek and Latin	
AHS 115	Medical Terminology	
CPR 100	CPR for Healthcare Professionals	1
SFA 100	Safety and First Aid	1
BAS 200	Small Business Management	3
or BAS 288	Personal and Organizational Leadership	
MSG 100	Musculoskeletal Anatomy & Physiology I	4
or BIO 135	Basic Anatomy and Physiology with Laboratory	
KHP 150	Personal Health Behavior	3
KHP 160	Personal Nutrition and Fitness	3
KHP 225	Exercise Techniques and Physical Training	3
KHP 235	Personal Trainer Practicum	2
<b>Total Credits</b>		<b>23</b>

## Facilities Healthcare Technician

The Facilities Healthcare Technician Certificate combined with a strong mechanical, trade, or maintenance background prepares students for a position in the highly innovative and rapidly changing industry. Students will receive an education in the healthcare physical environment with a focus on accreditation, healthcare departments, healthcare customers, infection control, life safety, healthcare ventilation, medical gas, electrical equipment testing, and healthcare electrical systems. The courses focus

on integrating and operationalizing codes, compliance and regulation that is unique to healthcare.

Those completing the Facilities Healthcare Technician certificate will gain an understanding of the highly specialized building and physical environment of healthcare along with how the healthcare building is directly involved in patient or resident health outcomes. The Healthcare Facilities Technician certificate will also prepare students to sit for the Certified Healthcare Facilities Technician (CHFT) certification.

Those earning the FHT certificate will have an advantage in finding employment in a wide variety of healthcare facilities such as acute care hospitals, behavioral health, residential healthcare, rehabilitation, and various outpatient facilities. The FHT will also give an advantage to those seeking employment with healthcare building and construction vendors.

The FHT certificate can also provide pathway to the Healthcare Facilities Leadership (HFL) program as FHT certificate holders seek positions in healthcare facilities supervision and management.

### Certificates

- Facilities Healthcare Technician - Certificate (p. 238)

## Facilities Healthcare Technician - Certificate

**This program is not currently offered at a KCTCS College.**

**Program Plan Number:** 4604013009

**Curriculum Effective Spring Semester**

Course	Title	Credits
HFO 100	Healthcare Facilities Orientation	1
HFL 100	Introduction to Healthcare Facility Management	3
HFL 120	Infection Control and Prevention	2
HFL 130	Compliance, Codes and Standards I	3
FHT 100	Life Safety and Ventilation Compliance	3
FHT 101	Life Safety and Ventilation Compliance Workshop	1
FHT 110	Electrical and Medical Gas Compliance	3
FHT 111	Electrical and Medical Gas Compliance Workshop	1
<b>Total Credits</b>		<b>17</b>

## Fermentation Science

The Fermentation Science program provides the educational foundation and practicum for careers in brewing with a specific emphasis on the development of craft beers. The coursework covers a broad spectrum of knowledge and competencies required throughout the brewing process and in a modern brewing facility including chemistry, biology, fermentation, materials, recipe formulation, sensory evaluation, packaging, quality management, equipment maintenance, facilities maintenance, and accounting. Students are also introduced to electrical theory and mechanical concepts that are applied when working with brewing equipment and facilities. Students will work in commercial breweries to gain practical application relative to classes taken throughout the course of study.



Certificates are embedded within the Fermentation Science A.A.S. program but are not stand alone certificates and may only be acquired while seeking the degree.

Progression through the Fermentation Science program is contingent upon achieving a grade of "C" or better in each FRM course and a cumulative grade point average of 2.0 or higher.

## Degrees

- Fermentation Science - AAS (p. 239)

## Certificates

- Brewer's Assistant - Certificate (p. 239)
- Brewhouse Operator - Certificate (p. 239)
- Cellaring Technician - Certificate (p. 239)
- Packaging Technician - Certificate (p. 239)

## Fermentation Science - AAS

**Offered at:** Madisonville Community College

**Program Plan Number:** 1205997100

Progression through the Fermentation Science program is contingent upon achieving a grade of "C" or better in each FRM course and a cumulative grade point average of 2.0 or higher.

Course	Title	Credits
<b>General Education</b>		
BIO 114	Biology I	3
BIO 115	Biology Laboratory I	1
CHE 140	Introductory General Chemistry	3
CHE 145	Introductory General Chemistry Laboratory	1
CHE 150	Introduction to Organic and Biological Chemistry	3
CHE 155	Introduction to Organic and Biological Chemistry Laboratory	1
ENG 101	Writing I	3
HIS 107	Western Culture: Science and Technology II	3
MAT 150	College Algebra	3
PHY 151	Introductory Physics I	3
PHY 161	Introductory Physics I Laboratory	1
Social & Behavioral Sciences		3
Subtotal		28
<b>Technical Courses</b>		
CIT 105	Introduction to Computers	3
FRM 120	Brewery Facilities and Operational Management	4
AIT 2002	Quality Control and SPC	2
BAS 170	Entrepreneurship	3
CUL 125	Sanitation and Safety	2
COED 198	Practicum	3
FRM 100	Fundamentals of Fermentation	1
FRM 110	Principles of Fermentation Science	3
FRM 130	Sensory Analysis	3
FRM 140	Materials Evaluation	3
FRM 150	Recipe Formulation	3
FRM 160	Beverage Packaging	2

Subtotal	32
<b>Total Credits</b>	<b>60</b>

## Brewer's Assistant - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1205993110

Course	Title	Credits
FRM 100	Fundamentals of Fermentation	1
FRM 110	Principles of Fermentation Science	3
<b>Total Credits</b>		<b>4</b>

## Brewhouse Operator - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1205993120

Course	Title	Credits
FRM 100	Fundamentals of Fermentation	1
FRM 110	Principles of Fermentation Science	3
FRM 120	Brewery Facilities and Operational Management	4
FRM 140	Materials Evaluation	3
CUL 125	Sanitation and Safety	2
COED 198	Practicum	1
<b>Total Credits</b>		<b>14</b>

## Cellaring Technician - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1205993100

Course	Title	Credits
FRM 100	Fundamentals of Fermentation	1
CUL 125	Sanitation and Safety	2
FRM 120	Brewery Facilities and Operational Management	4
FRM 130	Sensory Analysis	3
COED 198	Practicum	1
<b>Total Credits</b>		<b>11</b>

## Packaging Technician - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1205993130

Course	Title	Credits
FRM 100	Fundamentals of Fermentation	1
CUL 125	Sanitation and Safety	2
FRM 120	Brewery Facilities and Operational Management	4
FRM 160	Beverage Packaging	2
COED 198	Practicum	1
<b>Total Credits</b>		<b>10</b>

# Financial and Customer Services

This certificate is designed to provide students with the financial, communication, and customer service skills necessary to be successful in the global financial services market. The certificate will require four primary areas of study including two fundamental courses, Spanish and customer service, and two courses in finance and communication, which enable different areas of emphasis.

## Certificates

- Financial and Customer Services - Certificate (p. 240)

# Financial and Customer Services - Certificate

**Offered at:** Hazard Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5208033019

Course	Title	Credits
SPA 101	Elementary Spanish I (spoken approach)	4
BAS 201	Customer Service Improvement Skills	3
OST 235	Business Communications Technology	3
or COM 252	Introduction to Interpersonal Communication	
BAS 120	Personal Finance	3
or BAS 294	Money and Financial Institutions	
<b>Total Credits</b>		<b>13</b>

# Fire Science Technology

If you are interested in a career in the fire service, the Fire Science Technology Program will prepare you for the challenges facing today's emergency responders. In the program you will learn skills related to fire suppression, technical rescue, hazardous materials, emergency medical care, and leadership. This program is beneficial whether you are seeking a career in emergency services (Fire, Rescue, EMS or Emergency Management) or if you are already involved in providing fire, rescue or EMS services in your community. Students may enter the program with or without experience in emergency services. The degree, certificate, and diploma programs that are offered can help you in obtaining employment in various emergency service fields, or if you are already a firefighter, help you get that promotion you have been waiting for. Classes are offered through State Fire/Rescue Training and may be offered in various formats such as: Web courses, hybrid courses, and traditional classroom offerings. For more information regarding this program, contact your local State Fire/Rescue Training Area Office. The AAS Fire Science Technology will offer students additional built-in options for: Fire Chief Diploma, Academic Certificates, and a Fire/Emergency Services Higher Education (FESHE) track that will allow students the option of applying credit toward certain bachelor programs at the university level.

## Fire Chief Diploma

This diploma may be awarded after students complete 48-51 credit hours of basic and advanced firefighter courses; fire officer courses; administrative and academic courses; and general education requirements. Students that successfully complete this program of study will possess the basic skills to lead a fire department.

# Fire Service Administrator Certificate

Available to students that have completed the advanced firefighting courses and the fire officer courses. Prepares students for entry-level officer or administrative positions in a fire department.

## Advanced Firefighter Certificate

Available to students that complete 21 credit hours of technical firefighting courses and will allow students to be prepared for certification testing and employment as a firefighter in a private or public fire department setting.

## Basic Firefighter Certificate

Available to students that complete 12 credit hours of basic technical firefighting courses and will allow students to be prepared for entry-level employment as a firefighter and subsequent on-the-job training in either private industry or with a public fire department.

## Basic Fire Protection Certificate

This certificate may be awarded after students complete 18 credit hours of study in Fire/Emergency Services Higher Education (FESHE) based courses. These courses focus on the core concepts related to academic fields such as fire protection engineering.

# Emergency Medical Technician Certificate

Students in the Emergency Medical Technician program are instructed in the proper care of sick and injured patients. Students are trained to treat victims suffering from traumatic and medical emergencies such as broken bones, puncture wounds, cardiac, and respiratory emergencies, vehicle accidents and more. This course meets requirements set forth by the National Highway Traffic Safety Administration's National Emergency Medical Services Standards for the Emergency Medical Technician. Students that successfully complete the course and its requirements will be awarded an academic certificate for Emergency Medical Technician, and will be eligible to sit for the certification examination as administered by the National Registry of Emergency Medical Technicians.

## Emergency Medical Responder Certificate

Students in the Emergency Medical Responder program are instructed in the proper care of sick and injured patients. Students are trained to treat victims suffering from traumatic and medical emergencies such as broken bones, puncture wounds, cardiac, and respiratory emergencies, vehicle accidents and more. Students successfully completing the course and its requirements will be awarded an academic certificate for Emergency Medical Responder, and will be eligible to sit for the certification examination as administered by the National Registry of Emergency Medical Technicians.

# Hazardous Materials Technician Certificate

Available to students that complete the Hazardous Materials Technician course which will allow students to be prepared for certification testing and/or initial employment as a responder to Hazardous Materials incidents in private industry or public fire department setting.

## Degrees

- Fire Science Technology - AAS (p. 241)

## Diplomas

- Fire Chief - Diploma (p. 241)

## Certificates

- Advanced Firefighter - Certificate (p. 242)
- Basic Fire Protection - Certificate (p. 242)
- Basic Firefighter - Certificate (p. 242)
- Emergency Medical Responder - Certificate (p. 242)
- Emergency Medical Technician - Certificate (p. 242)
- Fire Service Administration - Certificate (p. 243)
- Hazardous Materials Technician - Certificate (p. 243)

## Fire Science Technology - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4302037019

Course	Title	Credits
<b>General Education</b>		
Heritage/Humanities		3
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Written Communication		3
Subtotal		15
<b>Technical or Support Courses</b>		
<i>Core Technical Courses</i>		
Digital Literacy Course or demonstrated competency		0-3
FIR 101	Basic Firefighting I	3
FIR 102	Basic Firefighting II	3
FIR 103	Basic Firefighting III	3
FIR 104	Basic Firefighting IV	3
FIR 105	Fire Suppression	3
FIR 106	Intro to Special Responses	3
FIR 107	Intro to Rescue & Patient Care	3
Select one of the following two options:		6
<i>Option 1</i>		
FIR 230	Emergency Medical Technician	
<i>Option 2</i>		
FIR 215	Emergency Medical Responder	
FIR 200-Level Elective		
Subtotal		27-30
<i>Electives</i>		
Select 18 credit hours from the following 20 options:		18
FIR 198	Practicum	

FIR 202	Fire Instructor I
FIR 203	Fire Instructor II
FIR 205	Fire Officer I
FIR 206	Fire Officer II
FIR 210	Aircraft Rescue Firefighting
FIR 212	Driver/Operator - Pumper
FIR 213	Driver/Operator - Aerial
FIR 220	Hazardous Materials Technician
FIR 225	Special Topics in Fire Science
FIR 230	Emergency Medical Technician
FIR 260	Principles of Emergency Services
FIR 261	Building Construction
FIR 262	Fire Behavior and Combustion
FIR 263	Fire Service Safety & Wellness
FIR 264	Fire Prevention
FIR 265	Fire Protection Systems
FIR 280	Fire Service Legal Aspects
FIR 281	Fire Service Administration
FIR 282	Strategy and Tactics
Subtotal	18
<b>Total Credits</b>	<b>60-63</b>

**Note:** All FIR courses are available in modules; see course description section.

## Fire Chief - Diploma

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4302034039

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
<b>Technical Courses</b>		
Digital Literacy Course or demonstrated competency		0-3
FIR 101	Basic Firefighting I	3
FIR 102	Basic Firefighting II	3

FIR 103	Basic Firefighting III	3
FIR 104	Basic Firefighting IV	3
FIR 105	Fire Suppression	3
FIR 106	Intro to Special Responses	3
FIR 107	Intro to Rescue & Patient Care	3
FIR 198	Practicum	3
FIR 205	Fire Officer I	3
FIR 206	Fire Officer II	3
FIR 280	Fire Service Legal Aspects	3
FIR 281	Fire Service Administration	3
FIR 282	Strategy and Tactics	3
Subtotal		39-42
Total Credits		45-48

**Note:** All FIR courses are available in modules; see course description section.

## Advanced Firefighter - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4302033029

Course	Title	Credits
FIR 101	Basic Firefighting I	3
FIR 102	Basic Firefighting II	3
FIR 103	Basic Firefighting III	3
FIR 104	Basic Firefighting IV	3
FIR 105	Fire Suppression	3
FIR 106	Intro to Special Responses	3
FIR 107	Intro to Rescue & Patient Care	3
Total Credits		21

**Note:** All FIR courses are available in modules; see course description section.

## Basic Fire Protection - Certificate

**Offered at:** Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 4302033079

Course	Title	Credits
Select six of the following nine options:		18
FIR 260	Principles of Emergency Services	
FIR 261	Building Construction	
FIR 262	Fire Behavior and Combustion	

FIR 263	Fire Service Safety & Wellness	
FIR 264	Fire Prevention	
FIR 265	Fire Protection Systems	
FIR 280	Fire Service Legal Aspects	
FIR 281	Fire Service Administration	
FIR 282	Strategy and Tactics	
<b>Total Credits</b>		<b>18</b>

**Note:** All FIR courses are available in modules; see course description section.

## Basic Firefighter - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4302033019

Course	Title	Credits
FIR 101	Basic Firefighting I	3
FIR 102	Basic Firefighting II	3
FIR 103	Basic Firefighting III	3
FIR 104	Basic Firefighting IV	3
Total Credits		12

**Note:** All FIR courses are available in modules; see course description section.

## Emergency Medical Responder - Certificate

**Offered at:** Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4302033059

Course	Title	Credits
FIR 215	Emergency Medical Responder	3
Total Credits		3

## Emergency Medical Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and

Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5109042010

Course	Title	Credits
FIR 230	Emergency Medical Technician <sup>1</sup>	6
or EMS 105	Emergency Medical Technician - EMT	
<b>Total Credits</b>		<b>6</b>

<sup>1</sup> Contact faculty concerning pre-requisites

## Fire Service Administration - Certificate

**Offered at:** Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4302033049

Course	Title	Credits
FIR 101	Basic Firefighting I	3
FIR 102	Basic Firefighting II	3
FIR 103	Basic Firefighting III	3
FIR 104	Basic Firefighting IV	3
FIR 105	Fire Suppression	3
FIR 106	Intro to Special Responses	3
FIR 107	Intro to Rescue & Patient Care	3
Select one of the following two options:		6
FIR 205 & FIR 206	Fire Officer I and Fire Officer II	
FIR 280 & FIR 281	Fire Service Legal Aspects and Fire Service Administration	
<b>Total Credits</b>		<b>27</b>

**Note:** All FIR courses are available in modules; see course description section.

## Hazardous Materials Technician - Certificate

**Offered at:** Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 4302033069

Course	Title	Credits
FIR 220	Hazardous Materials Technician	3
<b>Total Credits</b>		<b>3</b>

## Fixed Wing Flight Training

Professional Fixed Wing pilots are highly trained and competent aircraft operators who are not only responsible for the safety of their passengers

and cargo but also for the operation of sophisticated and expensive equipment. Pilots must meet FAA medical standards. Graduates of the Fixed Wing Flight Training degree program will have completed all academic training required for the Commercial Pilot (Fixed Wing) and flight instructor certificates. Pilots with (Fixed Wing) Commercial Pilot Certificate and/or instructor credentials may find employment in a variety of Fixed Wing applications such as corporate flight operations, charter or cargo airlift, agricultural services, surveying, law enforcement, search and rescue, emergency medical evacuation, flight training, or with numerous government agencies or military services. Non-flying positions are also available with the Federal Aviation Administration or other federal, state, and local aviation agencies. Please see the Madisonville Community College Aviation Student Handbook for details.

## Degrees

- Fixed Wing Flight Training - AAS (p. 243)

## Certificates

- FAA: Certified Flight Instructor Certificate – Fixed Wing - Certificate (p. 244)
- FAA: Certified Flight Instructor Ground – Fixed Wing - Certificate (p. 244)
- FAA: Commercial Pilot Certificate – Fixed Wing - Certificate (p. 244)
- FAA: Commercial Pilot Ground School – Fixed Wing - Certificate (p. 244)
- FAA: Flight Instructor Instrument Certification – Fixed Wing - Certificate (p. 244)
- FAA: Flight Instructor Instrument Ground – Fixed Wing - Certificate (p. 244)
- FAA: Instrument Pilot Certification – Fixed Wing - Certificate (p. 245)
- FAA: Instrument Pilot Ground School – Fixed Wing - Certificate (p. 245)
- FAA: Multi-Engine Pilot Certification - Certificate (p. 245)
- FAA: Private Pilot Certification – Fixed Wing - Certificate (p. 245)
- FAA: Private Pilot Ground School – Fixed Wing - Certificate (p. 245)

## Fixed Wing Flight Training - AAS

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901027010

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
COM 181	Basic Public Speaking	3
GEO 251	Weather and Climate	3
MAT 150	College Algebra	3
Heritage/Humanities		3
Social/Behavioral Sciences		3
Subtotal		18
<b>Technical Core</b>		
CIT 105	Introduction to Computers	3
FWT 101	Private Pilot Fixed Wing Ground School	4
FWT 102	Private Pilot Fixed Wing Flight Lab	2



FWT 103	Fixed Wing Aircraft Instrument Pilot Ground School	4
FWT 104	Fixed Wing Instrument Pilot Flight Lab	2
FWT 105	Fixed Wing Commercial Pilot Ground School	3
FWT 106	Commercial Flight Lab	2
FWT 107	Certified Flight Instructor Fixed Wing	4
FWT 108	Certified Flight Instructor Fixed Wing Lab	2
FWT 109	Fixed Wing Commercial Multi-Engine Ground & Flight Lab	2
FWT 110	Fixed Wing Certified Flight Instructor Instrument Flight Lab	2
FWT 111	Certified Fixed Wing Flight Instructor Ground School	4
COED 198	Practicum	3-7
Elective		3
Elective		3
Subtotal		43-47
Total Credits		61-65

## FAA: Certified Flight Instructor Certificate – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023080

Course	Title	Credits
General Education Elective		3
General Education Elective		3
FWT 108	Certified Flight Instructor Fixed Wing Lab	2
FWT 109	Fixed Wing Commercial Multi-Engine Ground & Flight Lab	2
Total Credits		10

## FAA: Certified Flight Instructor Ground – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023070

Course	Title	Credits
COM 181	Basic Public Speaking	3
FWT 106	Commercial Flight Lab	2
FWT 107	Certified Flight Instructor Fixed Wing	4
Social/Behavioral Sciences Elective		3
Total Credits		12

## FAA: Commercial Pilot Certificate – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023060

Course	Title	Credits
COM 181	Basic Public Speaking	3
FWT 105	Fixed Wing Commercial Pilot Ground School	3
FWT 106	Commercial Flight Lab	2
Social/Behavioral Sciences Elective		3
Total Credits		11

## FAA: Commercial Pilot Ground School – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023050

Course	Title	Credits
FWT 104	Fixed Wing Instrument Pilot Flight Lab	2
FWT 105	Fixed Wing Commercial Pilot Ground School	3
Heritage/Humanities Elective		3
ENG 101	Writing I	3
Total Credits		11

## FAA: Flight Instructor Instrument Certification – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023100

Course	Title	Credits
General Education Elective		3
General Education Elective		3
FWT 109	Fixed Wing Commercial Multi-Engine Ground & Flight Lab	2
FWT 110	Fixed Wing Certified Flight Instructor Instrument Flight Lab	2
Total Credits		10

## FAA: Flight Instructor Instrument Ground – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023090

Course	Title	Credits
CIT 105	Introduction to Computers	3
ENG 101	Writing I	3
GEO 251	Weather and Climate	3
FWT 109	Fixed Wing Commercial Multi-Engine Ground & Flight Lab	2
Total Credits		11

## FAA: Instrument Pilot Certification – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023040

Course	Title	Credits
COM 181	Basic Public Speaking	3
FWT 102	Private Pilot Fixed Wing Flight Lab	2
FWT 104	Fixed Wing Instrument Pilot Flight Lab	2
Social/Behavioral Sciences Elective		3
<b>Total Credits</b>		<b>10</b>

## FAA: Instrument Pilot Ground School – Fixed Wing - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023030

Course	Title	Credits
FWT 102	Private Pilot Fixed Wing Flight Lab	2
FWT 103	Fixed Wing Aircraft Instrument Pilot Ground School	4
ENG 101	Writing I	3
Heritage/Humanities Elective		3
<b>Total Credits</b>		<b>12</b>

## FAA: Multi-Engine Pilot Certification - Certificate

Offered at: Madisonville Community College

Program Plan Number: 4901023110

Course	Title	Credits
General Education Elective		3
General Education Elective		3
FWT 107	Certified Flight Instructor Fixed Wing	4
FWT 105	Fixed Wing Commercial Pilot Ground School	3
<b>Total Credits</b>		<b>13</b>

## FAA: Private Pilot Certification – Fixed Wing - Certificate

Offered at: Madisonville Community College, Southeast Kentucky Community and Technical College

Program Plan Number: 4901023020

Course	Title	Credits
ENG 101	Writing I	3
Heritage/Humanities Elective		3
FWT 102	Private Pilot Fixed Wing Flight Lab	2
GEO 251	Weather and Climate	3

CIT 105	Introduction to Computers	3
<b>Total Credits</b>		<b>14</b>

## FAA: Private Pilot Ground School – Fixed Wing - Certificate

Offered at: Madisonville Community College, Southeast Kentucky Community and Technical College

Program Plan Number: 4901023010

Course	Title	Credits
GEO 251	Weather and Climate	3
MAT 150	College Algebra	3
CIT 105	Introduction to Computers	3
FWT 101	Private Pilot Fixed Wing Ground School	4
<b>Total Credits</b>		<b>13</b>

## General Occupational/Technical Studies

The Associate in Applied Science degree in General Occupational/Technical Studies provides flexible alternatives for meeting student and employer needs. This program serves two general purposes:

1. Individualized program – provides a flexible curriculum that can be designed to meet specific student and workplace needs, and
2. Degree completion – provides a structure through which credit may be granted for significant prior learning experiences in occupational/technical areas.

Credit earned through certificate and diploma program completion will be applicable toward the Associate in Applied Science in General Occupational/Technical Studies degree when consistent with the objectives of the student's individual plan of study. This heavily advisor-driven model can combine certificates and/or diplomas in different disciplines for meeting employer needs for unique skill combinations for which there is no established degree program. As much as twenty hours of credit for experiential learning may be applied toward degree completion. KCTCS certificate and diploma credit and acceptable credit transferred from other colleges may also be applied to a student's program completion plan. At least 25 percent of the approved curriculum credits must be completed at the KCTCS institution granting the degree.

## Degrees

- General Occupational/Technical Studies AAS (p. 245)

## General Occupational/Technical Studies AAS

Offered at: Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community

and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 3099997017

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education Component Minimum</b>		
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Written Communication		3
Additional General Education Coursework		0-5
Subtotal		15-20
<b>Technical Core Courses <sup>1</sup></b>		
Digital Literacy Course or demonstrated competency <sup>2</sup>		0-3
Technical Courses (The student record must identify a technical plan of study.		45
Subtotal		45-48
<b>Total Credits</b>		<b>60-68</b>

<sup>1</sup> The combination of general education and technical coursework should not exceed 68 credit hours.

<sup>2</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Geospatial Technology

The rapidly growing field of Geospatial Technologies (GST) enables users of spatial data the ability to make informed decisions. GST utilizes both time and place as analysis factors. GST is recognized by the U.S. Department of Labor as a high growth, high wage, green industry with a bright outlook. Completers of the certificate will have the skills for employment in GST or associated fields such as Unmanned Aircraft System, agriculture, remote sensing, geospatial intelligence, environmental science, crime analysis, and/or demographics.

### Certificates

- Applications of Geospatial Technology - Certificate (p. 246)

## Applications of Geospatial Technology - Certificate

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 4507023029

Course	Title	Credits
CIT 125	Intro to Digital Maps	3
CIT 225	GIS Data Analysis	3
GIS 145	Remote Sensing	3
GIS 255	Geospatial Programming	3

GIS 260	Geospatial Web Mapping	3
<b>Total Credits</b>		<b>15</b>

## Global Studies

The Global Studies certificate is designed to prepare students to be more globally aware and globally literate employees and citizens of the Commonwealth of Kentucky, the United States, and the world. It exposes students to a diverse set of courses and competencies which will prepare them to live and work in settings with diverse ethnic and cultural populations and to function more effectively as members of an increasingly interconnected world.

### Certificates

- Global Studies - Certificate (p. 246)

## Global Studies - Certificate

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 3020013010

Course	Title	Credits
COM 254	Introduction to Intercultural Communication	3
Foreign Language		4
Global Studies Heritage <sup>1</sup>		3
Global Studies Humanities/Fine Arts <sup>2</sup>		3
Global Studies Natural Science/Business <sup>3</sup>		3
Global Studies Social Interaction <sup>4</sup>		3
<b>Total Credits</b>		<b>19</b>

<sup>1</sup> Select from Global Studies Heritage list.

<sup>2</sup> Select from Global Studies Humanities/Fine Arts list.

<sup>3</sup> Select from Global Studies Natural Science list.

<sup>4</sup> Select from Global Studies Social Interaction list.

## Graphic Design and Library Technology

The Graphic Design and Library Technology (GDLT) program prepares students for careers in various industries utilizing cutting-edge technology within graphic design, video game design, and library professions. Students can choose from AAS degrees in three tracks and certificates in six areas. All courses in the Graphic Design and Library Technology program are available as web-based distance learning courses. Students can complete the degree or any certificate 100% online.

The Graphic Design track provides the concepts and skills needed to create and produce design projects such as brochures, flyers, newsletters, logos, product packaging, photo restorations and manipulations, multimedia presentations, simple illustrations, and websites using industry-standard techniques and graphic design applications. The courses within the Graphic Design track will assist with preparation for Adobe Certifications. A two-year AAS degree is available in Graphic Design, and an 18-hour certificate is also offered.

The Library Information Technology (LIT) track prepares graduates for paraprofessional library work, and the courses in this track may

be used to meet Kentucky public library certification requirements. A two-year AAS degree is offered in LIT, and an 18-hour certificate is also available. This certificate prepares students for paraprofessional jobs in libraries. Upon completion of the academic certificate, students will be able to perform basic library reference services using print and online sources, plan and produce library services and programs, demonstrate information literacy skills, and describe the role of libraries as agencies for information services.

The Video Game Design track prepares students to design, develop, and market digital games and simulations. This track focuses on artistic and multimedia game design and development. A two-year AAS degree is available in Video Game Design, and an 18-hour certificate is also offered.

The GDLT program offers a variety of certificates, including an 18-hour Social Media Design certificate, which provides skills in graphic design, video editing, and marketing for social media development. A 12-hour Digital Video certificate is available and provides skills in digital video editing and visual effects. An 18-hour Web Design certificate is also available for students.

## Degrees

- Graphic Design and Library Technology - AAS (p. 247)
  - Graphic Design Track (p. 247)
  - Library Information Technology Track (p. 247)
  - Video Game Design Track (p. 248)

## Certificates

- Digital Video - Certificate (p. 248)
- Graphic Design - Certificate (p. 248)
- Library Information Technology - Certificate (p. 248)
- Social Media Design- Certificate (p. 248)
- Video Game Design - Certificate (p. 249)
- Web Design - Certificate (p. 249)

## Graphic Design and Library Technology - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1108017019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education Courses</b>		
ENG 101	Writing I <sup>1</sup>	3
ENG 102	Writing II <sup>1</sup>	3
Quantitative Reasoning Course <sup>1</sup>		3
Natural Sciences Course <sup>1</sup>		3
Heritage/Humanities Course <sup>1</sup>		3
Social/Behavioral Sciences Course <sup>1</sup>		3
Subtotal		18
<b>Core Content</b>		
IMD 100	Digital Information & Communication Technologies	3
IMD 115	Introduction to Graphic Design	3

IMD 126	Introduction to Desktop Publishing	3
IMD 133	Beginning Web Design	3
IMD 270	Professional Practices	3
IMD 275	Information Management and Communications	3
COE 199	Cooperative Education: (Topic)	3
or IMD 271	Internship	
Subtotal		21
General Education and Core Content Subtotal		39

*Students must complete one of the tracks listed below to complete the AAS requirements.*

<sup>1</sup> Satisfies General Education requirement for the AAS degree.

## Graphic Design Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 110801702

Course	Title	Credits
General Education and Core Content Subtotal		39
IMD 127	Vector Design with Adobe Illustrator	3
IMD 128	Raster Design with Adobe PhotoShop	3
IMD 180	Intermediate Web Design	3
IMD 226	Advanced Desktop Publishing	3
IMD 228	Advanced Photoshop	3
or IMD 229	Advanced Illustrator	
IMD 277	Typography	3
IMD 280	Portfolio Practicum: Graphic Design	3
<b>Total Credits</b>		<b>60</b>

## Library Information Technology Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 110801704

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
General Education and Core Content Subtotal		39
LIT 115	Introduction to Reference Services	3
LIT 124	Library Administration	3
LIT 132	Library Technical Services	3
Select one of the following six Library & Information Technology Services Option courses:		3
LIT 120	Readers' Advisory Services	
LIT 243	Library Services for Children	
LIT 245	Library Services for Young Adults	
LIT 247	Library Services for Adults	
LIT 248	Library Services for Preschool Children	
LIT 280	Genealogy Services in Libraries	
Select three courses from the list of Library & Information Technology Track Option Courses:		9
LIT 120	Readers' Advisory Services	
LIT 200	Seminar in Kentucky Literature <sup>1</sup>	

LIT 240	Literature of Appalachian Kentucky	
LIT 242	Literature of Western Kentucky	
LIT 243	Library Services for Children <sup>1</sup>	
LIT 245	Library Services for Young Adults <sup>1</sup>	
LIT 247	Library Services for Adults <sup>1</sup>	
LIT 248	Library Services for Preschool Children <sup>1</sup>	
LIT 280	Genealogy Services in Libraries <sup>1</sup>	
LIT 285	History of Libraries	
LIN 175U	Information Literacy	
LIT 299	Selected Topics in Library Information Technology (May be repeated up to 6 hours)	
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> Course can be used as a Library & Information Technology track course if not utilized as Library & Information Technology Services Option Course.

## Video Game Design Track

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 110801705

Course	Title	Credits
General Education and Core Content Subtotal		39
IMD/CIT 124	Introduction to Game Development	3
IMD 165	Video-Game Level Design	3
IMD/CIT 221	Computer Graphics	3
IMD/CIT 222	3D Modeling for Video Games	3
IMD/CIT 223	3D Animation for Video Games	3
IMD/CIT 273	Game Production	3
IMD/CIT 274	Seminar in Game Development	3
<b>Total Credits</b>		<b>60</b>

## Digital Video - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1108013049

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
IMD 128	Raster Design with Adobe PhotoShop	3
IMD 250	Digital Video Editing I	3
IMD 255	Digital Video Editing II	3
IMD 258	Visual Effects for Video	3
<b>Total Credits</b>		<b>12</b>

## Graphic Design - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1108013029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
IMD 115	Introduction to Graphic Design	3
IMD 126	Introduction to Desktop Publishing	3
IMD 127	Vector Design with Adobe Illustrator	3
IMD 128	Raster Design with Adobe PhotoShop	3
IMD 226	Advanced Desktop Publishing	3
IMD 277	Typography	3
<b>Total Credits</b>		<b>18</b>

## Library Information Technology - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1108013019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
LIT 115	Introduction to Reference Services	3
LIN 175U	Information Literacy	3
LIT 124	Library Administration	3
LIT 132	Library Technical Services	3
Select one course from each of the below groups:		6
<i>Library Services</i>		
LIT 120	Readers' Advisory Services	
LIT 243	Library Services for Children	
LIT 245	Library Services for Young Adults	
LIT 247	Library Services for Adults	
LIT 248	Library Services for Preschool Children	
LIT 280	Genealogy Services in Libraries	
<i>Library Information Technology Elective</i>		
LIT elective <sup>1</sup>		
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> Any LIT course above LIT 115 Introduction to Reference Services (3 credit hours)not used to fulfill another certificate requirement.

## Social Media Design- Certificate

**This program is not currently offered at a KCTCS College.**

**Program Plan Number:** 1108013069

Course	Title	Credits
IMD 115	Introduction to Graphic Design	3
IMD 127	Vector Design with Adobe Illustrator	3
IMD 128	Raster Design with Adobe PhotoShop	3
IMD 250	Digital Video Editing I	3
BAS 125	Social Media Marketing: Fundamental Concepts, Skills, and Strategies	3



BAS 126	Social Media Marketing: Project Management and Implementation Strategies	3
<b>Total Credits</b>		<b>18</b>

## Video Game Design - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1108013059

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
IMD/CIT 124	Introduction to Game Development	3
IMD 165	Video-Game Level Design	3
IMD/CIT 221	Computer Graphics	3
IMD/CIT 222	3D Modeling for Video Games	3
IMD/CIT 223	3D Animation for Video Games	3
IMD/CIT 273	Game Production	3
<b>Total Credits</b>		<b>18</b>

## Web Design - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1108013079

Course	Title	Credits
IMD 115	Introduction to Graphic Design	3
IMD 128	Raster Design with Adobe PhotoShop	3
IMD 133	Beginning Web Design	3
IMD 180	Intermediate Web Design	3
IMD 228	Advanced Photoshop	3
IMD 250	Digital Video Editing I	3
<b>Total Credits</b>		<b>18</b>

## Health Care Foundations

This certificate will prepare entry-level health care workers with basic health care knowledge and skills in the areas of health care delivery and management, health care communication, basic skills I & II, pharmacology, clinical pathophysiology and medical terminology.

### Certificates

- Health Care Foundations - Basic - Certificate (p. 249)
- Health Care Foundations - Intermediate - Certificate (p. 249)

## Health Care Foundations - Basic - Certificate

**Offered at:** Ashland Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5139023209

Course	Title	Credits
HST 101	Health Care Basic Skills I	3-3.5
or HST 104	Health Care Basic Skills I with Clinical	
HST 102	Health Care Delivery & Management	3
HST 103	Health Care Communication	2
AHS 115	Medical Terminology	3
<b>Total Credits</b>		<b>11-11.5</b>

## Health Care Foundations - Intermediate - Certificate

**Offered at:** Ashland Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 5139023219

Course	Title	Credits
HST 101	Health Care Basic Skills I	3-3.5
or HST 104	Health Care Basic Skills I with Clinical	
HST 102	Health Care Delivery & Management	3
HST 103	Health Care Communication	2
AHS 115	Medical Terminology	3
HST 121	Pharmacology	2
HST 122	Clinical Pathophysiology	3
HST 123	Health Care Basic Skills II	2
<b>Total Credits</b>		<b>18-18.5</b>

## Health Information Technology

This program prepares the graduate to take an active role in the field of health information management. Graduates will interact with physicians, health professionals, and financial and administrative staffs to ensure the protection of information systems. Graduates will help determine health information budgets, resources and policies, utilizing current and accurate data. The curriculum includes course work in the supporting sciences and general education areas. Classroom instruction is supplemented with learning experiences in the campus laboratory and in area health care facilities.

Students enrolled in the Health Information Technology Program are required to achieve a minimum grade of "C" or higher in each course in the program.

Health Information Technicians are employed in hospitals, medical clinics, nursing homes, other health care facilities and industry. Graduates with the AAS degree are qualified to write the American Health Information Management Association's/Commission on Certification for Health Informatics and Information Management (CCHIIM) Registered Health Information Technician examination and the CCA coding examination. Graduates of the medical records coding specialist certificate may write the American Health Information Management Association's CCA coding examination and the American Academy of Professional Coders' CPC-A (and others as qualified) coding examinations.

For students completing the AAS in Health Information Technology, documentation of computer literacy as defined by KCTCS is required prior to enrolling in the first HIT course.

The Associate in Applied Science Degree Health Information Technology is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) at each college. Additional information may be found at CAHIIM's website URL: <http://cahiim.org>.

## Degrees

- Health Information Technology - AAS (p. 250)

## Certificates

- HIT Coding - Certificate (p. 250)
- Release of Information Data Specialist - Certificate (p. 250)

## Health Information Technology - AAS

**Offered at:** Gateway Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 5107077019

Students enrolled in the Health Information Technology Program are required to achieve a minimum grade of "C" or higher in each course in the program.

Course	Title	Credits
<b>General Education Requirements</b>		
ENG 101	Writing I	3
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
MAT 151	Introduction to Applied Statistics	3
or STA 151	Introduction to Applied Statistics	
PSY 110	General Psychology	3
or SOC 101	Introduction to Sociology	
Heritage/Humanities		3
Subtotal		16-20
<b>Technical Course Requirements</b>		
CIT 105	Introduction to Computers	3
or OST 105	Introduction to Information Systems	
CLA 131	Medical Terminology from Greek and Latin	3
or MIT 103	Medical Office Terminology	
or AHS 115	Medical Terminology	
HIT 100	Introduction to Health Information Technology	3
HIT 105	Pathophysiology / Pharmacology for Health Information Professionals	4
CIT 130	Productivity Software	3
or OST 240	Advanced Microsoft Applications	
HIT 109	Clinical Classification Systems I	4
HIT 110	Legal & Ethical Issues in Health Information	2
HIT 112	Reimbursement Methodologies	3
HIT 200	Information Systems in Health Care	3
HIT 202	Clinical Classification Systems II	3
HIT 205	Quality Mgmt & PI - Health Info	3
HIT 207	Clinical Classification Systems III	3

HIT 211	Health Care Management and Statistics	3
Select one of the following two options:		4
HIT 215	Clinical Practicum	
HIT 2151 & HIT 2152	Clinical Practicum I and Clinical Practicum II	
Subtotal		44
<b>Total Credits</b>		<b>60-64</b>

## HIT Coding - Certificate

**Offered at:** Gateway Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 5107073089

Course	Title	Credits
Select one of the following three options:		3
CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
AHS 115	Medical Terminology	
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
HIT 100	Introduction to Health Information Technology	3
HIT 105	Pathophysiology / Pharmacology for Health Information Professionals	4
HIT 109	Clinical Classification Systems I	4
HIT 110	Legal & Ethical Issues in Health Information	2
HIT 112	Reimbursement Methodologies	3
HIT 202	Clinical Classification Systems II	3
HIT 207	Clinical Classification Systems III	3
HIT 215	Clinical Practicum	2-4
or HIT 2151	Clinical Practicum I	
<b>Total Credits</b>		<b>31-37</b>

## Release of Information Data Specialist - Certificate

**Offered at:** Gateway Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 5107073099

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
HIT 100	Introduction to Health Information Technology	3
HIT 110	Legal & Ethical Issues in Health Information	2
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Select one of the following three options:		3

CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
AHS 115	Medical Terminology	
<b>Total Credits</b>		<b>12-16</b>

## Health Science Technology

The Health Science Technology (HST) program is designed to prepare students for entry-level career opportunities in the field of healthcare and health-related services. The program is designed for those students who seek entry level jobs as well as for currently employed individuals wishing to broaden skills for career enhancement. Graduates will possess marketable skills sets for direct services as well as the foundation needed to understand current health care delivery. Many of the general education and core courses are required for completion of varied professional health programs. Examples include diagnostic medical sonography, medical assisting, nursing, physical therapy assistant, radiography, respiratory care, and surgical technology. The HST program may provide a smooth transition or career pathway to an Allied Health/ Nursing selective admission program if a student is selected for admission.

A grade of "C" or better is required in each biological science and quantitative reasoning (mathematics) course. In addition, students must adhere to the grading requirements for each certificate they select for completion.

## Degree

- Health Science Technology - AAS (p. 251)

## Health Science Technology - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5100007019

**May be available completely online. Please check with your academic advisor.**

A grade of "C" or better is required in each biological science and quantitative reasoning (mathematics) course. In addition, students must adhere to the grading requirements for each certificate they select for completion.

Course	Title	Credits
<b>General Education</b>		
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher Level Quantitative Reasoning Course <sup>1</sup>		
ENG 101	Writing I	3
Select one of the following two options:		4
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	
BIO 137	Human Anatomy and Physiology I with Laboratory	
PSY 110	General Psychology	3

Social/Behavioral Sciences		3
Heritage/Humanities		3
Oral Communications		3
Subtotal		22
Technical Core		
Select one of the following three options:		3
CLA 131	Medical Terminology from Greek and Latin	
AHS 115	Medical Terminology	
MIT 103	Medical Office Terminology	
Select one of the following two options:		0-2
CPR 100	CPR for Healthcare Professionals	
KHP 190	First Aid and Emergency Care	
Digital Literacy Course or demonstrated competency <sup>2</sup>		0-3
Health Science Technical Courses <sup>3</sup>		35
Subtotal		38-43
Total Credits		60-65

<sup>1</sup> Quantitative Reasoning and Biology selection does require special attention to courses needed for a certificate or selective admission programs.

<sup>2</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

<sup>3</sup> Health Science Technical Course selection must result in final attainment of a **minimum** of three (3) certificate credentials. Attainment of additional certificates may be awarded to complete the required hours in the Health Science Technical Courses.

## Health Science Certificates

Students are required to earn a **minimum** of three (3) certificates from the approved Health Sciences certificates list below:

- Aging Services
- Advanced Biotechnician
- Advanced Nursing Assistant
- Advanced Phlebotomy Certificate
- Basic Biotechnician
- Basic Cardiac Ultrasound Technology
- Biomedical Science - PLTW
- Certified Medical Technician
- Client Service Coordinator
- Community Health Worker
- Direct Support Work
- Electrocardiogram/Electrocardiograph Technician
- Electronic Health Records Specialist
- Emergency Medical Responder
- Emergency Medical Services: Paramedic
- Emergency Medical Technician
- Entry Level Pharmacy Technology
- Foundations in Biomedical Technology Networking Systems
- HIT Coding
- Hospital Admissions Specialist
- Kentucky Medication Aide
- Massage Therapy
- Medical Assisting Certificate

- Medical Coding
- Medical Coding and Reimbursement Specialist
- Medical Interpreter
- Medical Office Administrative Assistant
- Medical Office Insurance Billing and Coding
- Medical Office Limited Radiography
- Medical Receptionist
- Medical Scribe
- Medical Transcriptionist
- Medical Unit Coordinator
- Nursing Assistant/Medicaid Nurse Aide
- Personal Trainer
- Phlebotomist
- Phlebotomy for the Healthcare Worker
- Physician's Office Laboratory
- Psychiatric Mental Health Technician
- Recovery Coach
- Release of Data Specialist
- Surgical First Assisting
- Telehealth Technician Associate

## Health Science Technical Courses

Students may complete additional certificates and/or take the following courses to meet the required minimum of 60 credit hours needed for the Health Science Technology degree after completing the minimum requirement of three (3) certificate credentials:

Course	Title	Credits
AHS 105	Introduction to Health Occupations	3
AHS 201	Management Principles for Allied Health Providers	3
AHS 203	Diversity in Health Care	3
ASL 101U	American Sign Language I	3
ASL 102U	American Sign Language II	3
ASL 201U	American Sign Language III	3
ASL 202U	American Sign Language IV	3
BAS 120	Personal Finance	3
BAS 283	Principles of Management	3
BAS 288	Personal and Organizational Leadership	3
BIO 118	Microbes and Society	3
BIO 120	Human Ecology	3
BIO 130	Aspects of Human Biology	3
BIO 135	Basic Anatomy and Physiology with Laboratory	4
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
BIO 225	Medical Microbiology with Laboratory	4
BIO 226	Principles of Microbiology	3
BIO 227	Principles of Microbiology with Laboratory	5
CHE 130	Introductory General and Biological Chemistry	3
CHE 140	Introductory General Chemistry	3
COM 181	Basic Public Speaking	3
COM 252	Introduction to Interpersonal Communication	3
COM 254	Introduction to Intercultural Communication	3
ENG 102	Writing II	3

FAM 253	Human Sexuality: Development, Behavior, and Attitudes	3
FAM 255	Child Development	3
FYE 105	Achieving Academic Success	3
HST 101	Health Care Basic Skills I	3
HST 102	Health Care Delivery & Management	3
HST 103	Health Care Communication	2
HST 104	Health Care Basic Skills I with Clinical	3.5
HST 121	Pharmacology	2
HST 122	Clinical Pathophysiology	3
HST 123	Health Care Basic Skills II	2
MIT 250	Legal Issues in Medical Information Management	3
NFS 101	Human Nutrition and Wellness	3
OST 275	Office Management	3
PHI 110	Medical Ethics	3
PHI 150	Business Ethics	3
PHY 151	Introductory Physics I	3
PHY 152	Introductory Physics II	3
PHY 171	Applied Physics	4
PHY 172	Physics for Health Sciences	2
PSY 223	Developmental Psychology	3
PSY 230	Psychosocial Aspects of Death and Dying	3
SFA 100	Safety and First Aid	1
SPA 101	Elementary Spanish I (spoken approach)	4
SPA 102	Elementary Spanish II (spoken approach)	4
SPA 103U	Spanish for High Beginners	3
SPA 151U	Spanish for Health Professionals	3
SPA 201	Intermediate Spanish I	3
SPA 202	Intermediate Spanish II	3
SPA 203U	High Intermediate Spanish	3
STA 220	Statistics	3
STA 251	Applied Statistics	3

## Healthcare Facilities Leadership

The Healthcare Facilities Leadership program prepares students for a highly innovative and rapidly changing professional career as a Healthcare Facilities Leader/Manager. Students receive an education in office and hospital procedures, client relations and communications, leadership, finances, energy management, public speaking, construction, infection control, maintenance operations, and codes and compliance. This knowledge can be used to gain employment locally, regionally, or nationally. Overall, the students in this program receive an education that provides marketable skills, preparing them to be employed in a high demand profession.

## Degrees

- Healthcare Facilities Leadership - AAS (p. 253)

## Diplomas

- Healthcare Facilities Leadership - Diploma (p. 253)

## Certificates

- Healthcare Facilities Foundation - Certificate (p. 253)

### Healthcare Facilities Leadership - AAS

**Offered at:** Owensboro Community and Technical College

**Program Plan Number:** 4604017019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education Courses</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
PHI 110	Medical Ethics	3
HFO 100	Healthcare Facilities Orientation	1
HFL 100	Introduction to Healthcare Facility Management	3
HFL 110	Introduction to Healthcare Industry	2
HFL 120	Infection Control and Prevention	2
HFL 130	Compliance, Codes and Standards I	3
HFL 140	Maintenance and Operations I	3
HFL 150	Planning, Design and Construction I	3
Select one of the following two options:		4-5
CHE 170 & CHE 175	General College Chemistry I and General College Chemistry Laboratory I	
BIO 112 & BIO 113	Introduction to Biology and Introduction to Biology Lab	
COM 181	Basic Public Speaking	3
CAD 100	Introduction to Computer Aided Design (Digital Literacy)	3
HFL 230	Compliance, Codes and Standards II	3
HFL 240	Maintenance and Operations II	3
HFL 250	Planning, Design and Construction II	3
HFL 260	Healthcare Facilities Leadership Capstone I	3
HFL 270	Healthcare Facilities Leadership Capstone II	3
BAS 287 or BAS 289	Supervisory Management Operations Management	3
BAS 212	Introduction to Financial Management	3
ECO 201	Principles of Microeconomics	3
BAS 288	Personal and Organizational Leadership	3
Elective		0-3
<b>Total Credits</b>		<b>63-67</b>

### Healthcare Facilities Leadership - Diploma

**Offered at:** Owensboro Community and Technical College

**Program Plan Number:** 4604014029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
ENG 101	Writing I	3
PHI 110	Medical Ethics	3
HFO 100	Healthcare Facilities Orientation	1
HFL 100	Introduction to Healthcare Facility Management	3
HFL 110	Introduction to Healthcare Industry	2
HFL 120	Infection Control and Prevention	2
HFL 130	Compliance, Codes and Standards I	3
HFL 140	Maintenance and Operations I	3
HFL 150	Planning, Design and Construction I	3
COM 181	Basic Public Speaking	3
HFL 230	Compliance, Codes and Standards II	3
HFL 240	Maintenance and Operations II	3
HFL 250	Planning, Design and Construction II	3
HFL 260	Healthcare Facilities Leadership Capstone I	3
ECO 201	Principles of Microeconomics	3
BAS 288	Personal and Organizational Leadership	3
Digital Literacy Course or demonstrated competency		0-3
<b>Total Credits</b>		<b>44-47</b>

### Healthcare Facilities Foundation - Certificate

**Offered at:** Owensboro Community and Technical College

**Program Plan Number:** 4604013119

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
HFO 100	Healthcare Facilities Orientation	1
HFL 100	Introduction to Healthcare Facility Management	3
HFL 110	Introduction to Healthcare Industry	2
HFL 120	Infection Control and Prevention	2
HFL 130	Compliance, Codes and Standards I	3
HFL 140	Maintenance and Operations I	3
HFL 150	Planning, Design and Construction I	3
<b>Total Credits</b>		<b>17</b>

### Heavy Equipment Operation

Instructs students in the safe operation of heavy equipment, e.g., bulldozers, backhoes, front-end loaders, hydraulic excavators, and graders. Provides instruction in digging, ditching, sloping, stripping, grading, backfilling, clearing trees and rubble, and foundation excavating is provided as well as instruction in the proper care and maintenance of equipment.

### Diplomas

- Operating Engineer - Diploma (p. 254)



Certificates

- Backhoe Operator - Certificate (p. 254)
- Bulldozer Operator - Certificate (p. 254)
- Front-End Loader Operator - Certificate (p. 254)
- Hydraulic Excavator Operator - Certificate (p. 254)
- Motor-Grader Operator - Certificate (p. 254)

Operating Engineer - Diploma

Offered at: Hazard Community and Technical College

Program Plan Number: 4902024029

Course	Title	Credits
General Education		
Area 1		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Heritage/Humanities		
Area 2		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
Technical Courses		
Digital Literacy		0-3
DIT 103	Preventive Maintenance Lab	2
HEO 125	Special Problems I	3
HEO 130	Power Shovel Backhoe Operator	5
HEO 131	Bulldozer Operator	5
HEO 132	Utility Tractor Loader Operator	5
HEO 133	Motor Grader Loader Operator	5
HEO 134	Hydraulic Excavator Operator	5
HEO 141	Heavy Equipment Operating I	3
HEO 211	Heavy Equipment Operating II	3
HEO 215	Heavy Equipment Operations	1
HEO 225	Special Problems II	3
HEO 231	Heavy Equipment Operating III	3
ISX 100	Industrial Safety	3
Subtotal		46-49
Total Credits		52-55

Backhoe Operator - Certificate

Offered at: Hazard Community and Technical College, West Kentucky Community and Technical College

Program Plan Number: 4902023069

Course	Title	Credits
HEO 130	Power Shovel Backhoe Operator	5
DIT 103	Preventive Maintenance Lab	2

HEO 125	Special Problems I	3
Total Credits		10

Bulldozer Operator - Certificate

Offered at: Hazard Community and Technical College, West Kentucky Community and Technical College

Program Plan Number: 4902023029

Course	Title	Credits
HEO 131	Bulldozer Operator	5
DIT 103	Preventive Maintenance Lab	2
HEO 125	Special Problems I	3
Total Credits		10

Front-End Loader Operator - Certificate

Offered at: Hazard Community and Technical College, West Kentucky Community and Technical College

Program Plan Number: 4902023079

Course	Title	Credits
HEO 132	Utility Tractor Loader Operator	5
DIT 103	Preventive Maintenance Lab	2
HEO 125	Special Problems I	3
Total Credits		10

Hydraulic Excavator Operator - Certificate

Offered at: Hazard Community and Technical College, West Kentucky Community and Technical College

Program Plan Number: 4902023089

Course	Title	Credits
HEO 134	Hydraulic Excavator Operator	5
DIT 103	Preventive Maintenance Lab	2
HEO 125	Special Problems I	3
Total Credits		10

Motor-Grader Operator - Certificate

Offered at: Hazard Community and Technical College, West Kentucky Community and Technical College

Program Plan Number: 4902023049

Course	Title	Credits
HEO 133	Motor Grader Loader Operator	5
DIT 103	Preventive Maintenance Lab	2
HEO 125	Special Problems I	3
Total Credits		10

## Helicopter Flight Training

Professional helicopter pilots are highly trained and competent aircraft operators who are not only responsible for the safety of their passengers and cargo but also for the operation of sophisticated and expensive equipment. Pilots must meet FAA medical standards. Graduates of the Helicopter Flight Training degree program will have completed all academic training required for the Commercial Pilot (Helicopter) and flight instructor certificates. Pilots with a rotorcraft (helicopter) Commercial Pilot Certificate and/or instructor credentials may find employment in a variety of helicopter applications such as corporate flight operations, charter or cargo airlift, agricultural services, surveying, law enforcement, search and rescue, on-demand media, emergency medical evacuation, flight training, or with numerous government agencies or military services. Non-flying positions are also available with the Federal Aviation Administration or other federal, state, and local aviation agencies. Please see the Madisonville Community College Aviation Student Handbook for details.

## Degrees

- Helicopter Flight Training - AAS (p. 255)

## Certificates

- FAA: Certified Flight Instructor Certificate - Helicopter - Certificate (p. 255)
- FAA: Certified Flight Instructor Ground - Helicopter - Certificate (p. 255)
- FAA: Commercial Pilot Certificate - Helicopter - Certificate (p. 255)
- FAA: Commercial Pilot Ground School - Helicopter - Certificate (p. 256)
- FAA: Flight Instructor Instrument Certification - Helicopter - Certificate (p. 256)
- FAA: Flight Instructor Instrument Ground - Helicopter - Certificate (p. 256)
- FAA: Instrument Pilot Certification - Helicopter - Certificate (p. 256)
- FAA: Instrument Pilot Ground School - Helicopter - Certificate (p. 256)
- FAA: Private Pilot Certification - Helicopter - Certificate (p. 256)
- FAA: Private Pilot Ground School - Helicopter - Certificate (p. 256)

## Helicopter Flight Training - AAS

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901087020

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
MAT 150	College Algebra	3
COM 181	Basic Public Speaking	3
GEO 251	Weather and Climate	3
Heritage/Humanities		3
Social/Behavioral Sciences		3
Subtotal		18
<b>Technical Core</b>		
CIT 105	Introduction to Computers	3

HFT 101	Private Helicopter Pilot	4
HFT 102	Private Pilot Helicopter Flight Lab	2
HFT 103	Helicopter Instrument Pilot	4
HFT 104	Helicopter Instrument Pilot Flight Lab	2
HFT 105	Helicopter Commercial Pilot	4
HFT 106	Commercial Helicopter Flight Lab	2
HFT 107	Certified Helicopter Flight Instructor	4
HFT 108	Certified Helicopter Flight Instructor Lab	2
HFT 109	Certified Helicopter Flight Instructor Instrument	4
HFT 110	Certified Helicopter Flight Instructor Instrument (CFII) Flight Lab	2
COED 198	Practicum	3-8
Elective		3
Elective		3
Subtotal		42-47
<b>Total Credits</b>		<b>60-65</b>

## FAA: Certified Flight Instructor Certificate - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083190

Course	Title	Credits
General Education Elective		3
General Education Elective		3
HFT 109	Certified Helicopter Flight Instructor Instrument	4
HFT 108	Certified Helicopter Flight Instructor Lab	2
<b>Total Credits</b>		<b>12</b>

## FAA: Certified Flight Instructor Ground - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083180

Course	Title	Credits
COM 181	Basic Public Speaking	3
HFT 106	Commercial Helicopter Flight Lab	2
HFT 107	Certified Helicopter Flight Instructor	4
Social/Behavioral Sciences		3
<b>Total Credits</b>		<b>12</b>

## FAA: Commercial Pilot Certificate - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083170

Course	Title	Credits
COM 181	Basic Public Speaking	3
HFT 105	Helicopter Commercial Pilot	4

HFT 106	Commercial Helicopter Flight Lab	2
Social/Behavioral Sciences		3
<b>Total Credits</b>		<b>12</b>

## FAA: Commercial Pilot Ground School - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083160

Course	Title	Credits
HFT 105	Helicopter Commercial Pilot	4
HFT 104	Helicopter Instrument Pilot Flight Lab	2
Heritage/Humanities		3
ENG 101	Writing I	3
<b>Total Credits</b>		<b>12</b>

## FAA: Flight Instructor Instrument Certification - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083210

Course	Title	Credits
General Education Elective		3
General Education Elective		3
HFT 109	Certified Helicopter Flight Instructor Instrument	4
HFT 110	Certified Helicopter Flight Instructor Instrument (CFII) Flight Lab	2
<b>Total Credits</b>		<b>12</b>

## FAA: Flight Instructor Instrument Ground - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083200

Course	Title	Credits
GEO 251	Weather and Climate	3
CIT 105	Introduction to Computers	3
HFT 109	Certified Helicopter Flight Instructor Instrument	4
ENG 101	Writing I	3
<b>Total Credits</b>		<b>13</b>

## FAA: Instrument Pilot Certification - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083150

Course	Title	Credits
COM 181	Basic Public Speaking	3
HFT 102	Private Pilot Helicopter Flight Lab	2
HFT 104	Helicopter Instrument Pilot Flight Lab	2
Social/Behavioral Sciences		3
<b>Total Credits</b>		<b>10</b>

## FAA: Instrument Pilot Ground School - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083140

Course	Title	Credits
HFT 102	Private Pilot Helicopter Flight Lab	2
HFT 103	Helicopter Instrument Pilot	4
ENG 101	Writing I	3
Heritage/Humanities		3
<b>Total Credits</b>		<b>12</b>

## FAA: Private Pilot Certification - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083130

Course	Title	Credits
ENG 101	Writing I	3
CIT 105	Introduction to Computers	3
GEO 251	Weather and Climate	3
Heritage/Humanities Elective		3
HFT 102	Private Pilot Helicopter Flight Lab	2
<b>Total Credits</b>		<b>14</b>

## FAA: Private Pilot Ground School - Helicopter - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 4901083120

Course	Title	Credits
GEO 251	Weather and Climate	3
MAT 150	College Algebra	3
CIT 105	Introduction to Computers	3
HFT 101	Private Helicopter Pilot	4
<b>Total Credits</b>		<b>13</b>

## Human Services

This program prepares individuals for entry level positions in agencies and institutions which provide social, community, educational and mental health services. The curriculum provides an opportunity for the student to develop the knowledge and skills necessary for entry level employment.

Included in the curriculum is a core of human services courses, general education courses, and technical courses with a specific human services emphasis. Application of human services principles and skills is provided through a clinical experience in an appropriate setting.

Upon completion of the program the graduate is prepared to seek employment in various areas which may include childcare facilities, mental health settings, chemical dependency settings, hospitals, educational institutions, correctional facilities, geriatric settings, child and youth centers, and social service agencies.

Progression in the Human Services Program is contingent upon the achievement of a grade of "C" or better in all core classes (HMS 101, HMS 102, HMS 103, HMS 104, HMS 220, and (HMS 248 OR HMS 251)) and also in the two technical courses that have been selected to complete the core requirements.

## Degrees

- Human Services - AAS (p. 257)

## Certificates

- Aging Services - Certificate (p. 258)
- Client Service Coordinator - Certificate (p. 259)
- Direct Support Work - Certificate (p. 259)
- Psychiatric Mental Health Technician - Certificate (p. 259)
- Recovery Coach - Certificate (p. 260)

## Human Services - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 4400007000

**May be available completely online. Please check with your academic advisor.**

Progression in the Human Services Program is contingent upon the achievement of a grade of "C" or better in all core classes (HMS 101, HMS 102, HMS 103, HMS 104, HMS 220, and (HMS 248 OR HMS 251)) and also in the two technical courses that have been selected to complete the core requirements.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
ENG 102	Writing II	3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
PSY 110	General Psychology	3
SOC 101	Introduction to Sociology	3
Social and Behavioral Science		3
Heritage/Humanities course		3
Quantitative Reasoning course		3
Natural Sciences		3

Subtotal		27
Technical Core		
Select one of the following two options:		3
CIT 105	Introduction to Computers	
Approved Digital Literacy Course		
HMS 101	Human Services Survey	3
HMS 102	Values of Human Services in a Contemporary Society	3
HMS 103	Theories and Techniques in Human Services	3
HMS 104	Group Dynamics for Human Services	3
HMS/SWK 220	Cultural Diversity in Human Services	3
Select one of the following three options:		3
HMS 248	Foundational Skills in Para-Professional Practice	
HMS 251	Clinical Practices in Human Services	
COE 199	Cooperative Education: (Topic)	
Technical courses		6
Electives		6
Subtotal		33
Total Credits		60

## Technical Courses

Course	Title	Credits
<b>Technical Courses</b>		
Select six hours of the following:		6
ANT/REL 130	Introduction to Comparative Religion	3
ANT 160	Cultural Diversity in the Modern World	3
ANT 220	Introduction to Cultural Anthropology	3
ANT 221	Native People of North America	3
ANT 223	Culture Change and Globalization	3
ANT 235	Food and Culture	3
ASL 101U	American Sign Language I	3
ASL 102U	American Sign Language II	3
ASL 201U	American Sign Language III	3
ASL 202U	American Sign Language IV	3
COM 254	Introduction to Intercultural Communication	3
CRJ 100	Introduction to Criminal Justice	3
CRJ 208	Delinquency and the Juvenile Justice System	3
ECO 101	Contemporary Economic Issues	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
EDP 202	Human Development and Learning	3
EDP 203	Teaching Exceptional Learners in Regular Classrooms	3
EDU 130	Introduction to Special Education	3
EDU 140	Introduction to Behavior Management	3
FAM 252	Introduction to Family Science	3
FAM 253	Human Sexuality: Development, Behavior, and Attitudes	3
FLK 280	Cultural Diversity in the United States	3
FRE 101	Elementary French I	4
FRE 102	Elementary French II	4
FRE 201	Intermediate French I	3

FRE 202	Intermediate French II	3	SED 204	Sign Language IV	3
GER 101	Elementary German I	4	SOC 151	Social Interaction	3
GER 102	Elementary German II	4	SOC 152	Modern Social Problems	3
GER 201	Intermediate German I	3	SOC 220	The Community	3
GER 202	Intermediate German II	3	SOC 230	Deviant Behavior	3
HIS 260	African American History to 1865	3	SOC 235	Inequality in Society	3
HIS 261	African-American History 1865 - Present	3	SOC 249	Media, Society, and Culture	3
HIS 265	History of Women in America	3	SOC 260	Population, Resources and Change	3
HMS 200	Dynamics of Human Behavior	3	SPA 101	Elementary Spanish I (spoken approach)	4
HMS 211/ SWK 255	Introduction to Addictions	3	SPA 102	Elementary Spanish II (spoken approach)	4
HMS 212/ SWK 260	Crisis Intervention	3	SPA 201	Intermediate Spanish I	3
HMS 210	Drugs, Society, & Human Behavior	3	SPA 202	Intermediate Spanish II	3
HMS 235	Teaching Persons with Mental Retardation	3	SWK 124	Introduction to Social Services	3
HMS 240	Service Coordination for Human Services Professionals	3	SWK 180	Introduction to Gerontology	3
HMS 245	Psychiatric Mental Health Technician	3	SWK 222	Development of Social Welfare	3
HMS 265	Working with Disabilities in Human Services	3	SWK 269	Social Work in the Juvenile Justice System	3
HMS 299	Special Topics in Human Services: (Topic)	1-3	SWK 275	The Family	3
HST 104	Health Care Basic Skills I with Clinical	3.5	SWK 276	Criminology	3
IEC 102	Foundations of Early Childhood Education	3	SWK 281	Psychology of Aging	3
IEC 130	Early Childhood Development	3	WGS 200	Introduction to Women's and Gender Studies in the Social Sciences	3
IEC 200	Child Guidance	3	WGS 201	Introduction to Women's and Gender Studies in the Arts and Humanities	3
IEC 210	Families and Communities in Early Childhood Education	3	<b>Murray State University Courses:</b>		
IEC 260	Infant and Toddler Education and Programming	3	SWK 120	Group Preparation and Selection for Foster and Adoptive Parents	2
JPN 101	Beginning Japanese I	4	SWK 121	Child Sexual Abuse for Foster and Adoptive Parents	2
JPN 102	Beginning Japanese II	4	<b>Eastern Kentucky University Courses:</b>		
JPN 201	Intermediate Japanese I	3	COR 106	Foundations of Youth Work	3
JPN 202	Intermediate Japanese II	3	COR 423*	Reclaiming Our Prodigal Sons and Daughters	3
MNA 100	Medicaid Nurse Aide	3	COR 423*	Life Space Crisis Intervention	3
or NAA 100	Nursing Assistant Skills I		SWK 106	Food Benefits	3
NAA 100	Nursing Assistant Skills I	3	* Special Topics course at ECU; different section numbers indicate different topic content.		
POL 101	American Government	3	<b>Aging Services - Certificate</b>		
POL 212	Culture and Politics in Developing Nations	3	<b>Offered at:</b> Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Madisonville Community College, Southeast Kentucky Community and Technical College		
POL 235	World Politics	3	<b>Program Plan Number:</b> 4400003049		
POL 255	State Government	3	<b>May be available completely online. Please check with your academic advisor.</b>		
POL 280	Introduction to Public Policy	3			
PSY 180	Human Relations	3	<b>Course</b>	<b>Title</b>	<b>Credits</b>
PSY 185	Human Potential	3	HMS 102	Values of Human Services in a Contemporary Society	3
PSY 223	Developmental Psychology	3	HMS 265	Working with Disabilities in Human Services	3
PSY 230	Psychosocial Aspects of Death and Dying	3	Select one of the following three options:		
PSY 297	Psychology of Aging	3	MNA 100	Medicaid Nurse Aide	
PSY 298	Essentials of Abnormal Psychology	3	NAA 100	Nursing Assistant Skills I	
RAE 120	Introduction to Chinese Culture	3			
RAE 150	Elementary Chinese I	4			
RAE 151	Elementary Chinese II	4			
REL 101	Introduction to Religious Studies	3			
REL/ANT 130	Introduction to Comparative Religion	3			
SED 101	Sign Language I	3			
SED 102	Sign Language II	3			
SED 203	Sign Language III	3			



HST 104	Health Care Basic Skills I with Clinical	
SWK 275	The Family	3
or FAM 252	Introduction to Family Science	
SWK 180	Introduction to Gerontology	3
SWK 281	Psychology of Aging	3
<b>Total Credits</b>		<b>18</b>

## Client Service Coordinator - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Madisonville Community College

**Program Plan Number:** 4400003079

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
HMS 101	Human Services Survey	3
HMS 102	Values of Human Services in a Contemporary Society	3
HMS 103	Theories and Techniques in Human Services	3
HMS 104	Group Dynamics for Human Services	3
HMS 212/ SWK 260	Crisis Intervention	3
HMS 240	Service Coordination for Human Services Professionals	3
HMS 248 or HMS 251	Foundational Skills in Para-Professional Practice Clinical Practices in Human Services	3
SWK 275 or FAM 252	The Family Introduction to Family Science	3
<b>Total Credits</b>		<b>24</b>

## Direct Support Work - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4400003039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
HMS 102	Values of Human Services in a Contemporary Society	3
HMS 265	Working with Disabilities in Human Services	3
Select one of the following three options:		3
MNA 100	Medicaid Nurse Aide	
NAA 100	Nursing Assistant Skills I	

HST 104	Health Care Basic Skills I with Clinical	
SWK 275	The Family	3
or FAM 252	Introduction to Family Science	
<b>Electives</b>		
Select one of the following four options:		3
HMS 235	Teaching Persons with Mental Retardation	
SWK 180	Introduction to Gerontology	
PSY 230	Psychosocial Aspects of Death and Dying	
HMS 200	Dynamics of Human Behavior	
<b>Total Credits</b>		<b>15</b>

## Psychiatric Mental Health Technician - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4400003069

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
HMS 101	Human Services Survey	3
HMS 102	Values of Human Services in a Contemporary Society	3
HMS 103	Theories and Techniques in Human Services	3
HMS 104	Group Dynamics for Human Services	3
HMS 210	Drugs, Society, & Human Behavior	3
SWK 275	The Family	3
Select one of the following three options:		3
MNA 100	Medicaid Nurse Aide	
NAA 100	Nursing Assistant Skills I	
HST 104	Health Care Basic Skills I with Clinical	
HMS 245	Psychiatric Mental Health Technician	3
Technical Elective from approved list		3
<b>Total Credits</b>		<b>27</b>

## Technical Electives

Course	Title	Credits
Select one of the following:		3
HMS 211/ SWK 255	Introduction to Addictions	3
HMS 212/ SWK 260	Crisis Intervention	3
HMS 200	Dynamics of Human Behavior	3
HMS/SWK 220	Cultural Diversity in Human Services	3
HMS 265	Working with Disabilities in Human Services	3
SWK 180	Introduction to Gerontology	3

SWK 276	Criminology	3
SWK 281	Psychology of Aging	3

## Recovery Coach - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Madisonville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4400003089

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
HMS 101	Human Services Survey	3
HMS 102	Values of Human Services in a Contemporary Society	3
HMS 103	Theories and Techniques in Human Services	3
HMS 104	Group Dynamics for Human Services	3
HMS 210	Drugs, Society, & Human Behavior	3
HMS 211/ SWK 255	Introduction to Addictions	3
HMS 212/ SWK 260	Crisis Intervention	3
SWK 275 or FAM 252	The Family Introduction to Family Science	3
<b>Total Credits</b>		<b>24</b>

## Industrial Maintenance Technology Industrial Maintenance Track

An understanding of the requirements and opportunities in maintenance, good safety practices, pride in workmanship, and an understanding of the principles and accepted practices of the maintenance trade are covered in this program. Students are trained to hold positions in factories, hospitals, hotels, etc., where multi-skilled maintenance personnel are needed. Included are courses in air conditioning, carpentry, electricity, machine tool, metal fabrication, and welding.

Progression in the Industrial Maintenance Track is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Industrial Maintenance Track require a "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Advanced Manufacturing Technician Track

Advanced Manufacturing requires demonstrating multiple skills and competencies. Students accepted into this program gain valuable workplace experience, working three (3) days in a manufacturing environment and two (2) days on campus in a manufacturing-based classroom. Critical conceptual components of the track include embedded Safety Culture, Workplace Organization (5S), Lean Manufacturing, Problem Solving and Maintenance Reliability, coupled with Personal Behavior development (Attendance, Communication,

Diligence, Teamwork, Initiative, and Interpersonal Relations) within the program pathway. Successful students apply learned skills throughout the program in the campus classroom, campus laboratory and manufacturing workplace. The advanced manufacturing technician (AMT) track develops multiple skills within the industrial maintenance pathway for manufacturing employers.

Progression in the Advanced Manufacturing Technician Track is contingent upon achievement of a grade "C" or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Advanced Manufacturing Track require a "C" or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## AMTEC Track

This program affords students the opportunity to achieve an understanding of the advanced skills needed to obtain a successful career in a constantly changing and globally competitive workforce. Students are trained in the multi-skilled maintenance trade with an emphasis on those skills needed in automotive industrial facilities.

Progression in the Automotive Manufacturing Technical Education Collaborative (AMTEC) Track is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Automotive Manufacturing Technical Education Collaborative (AMTEC) track require a "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Advanced Manufacturing Tool and Die Technician Track

The Advanced Manufacturing Tool and Die Technician Track is a program designed to provide a student with a well-rounded skill set that is needed to obtain a career in the advanced manufacturing industry sector. This apprenticeship-style program provides the students the opportunity to work in an advanced manufacturing environment and learn in an advanced manufacturing-based classroom setting. Graduates from this program will have been introduced to critical maintenance skills, positive safety practices, and manufacturing core exercises with an emphasis on the knowledge needed to gain employment in the presswork and die maintenance field.

Progression in the Advanced Manufacturing Tool and Die Technician Track is contingent upon achievement of a grade of "C" or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Advanced Manufacturing Track require a "C" or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Degrees

- Industrial Maintenance Technology - AAS (p. 263)
  - Advanced Manufacturing Technician Track (p. 263)
- Automotive Manufacturing Technical Education Collaborative (AMTEC) Track (p. 264)
- Advanced Manufacturing Tool and Die Technician Track (p. 265)
- Industrial Maintenance Track (p. 265)

## Diplomas

- Industrial Maintenance Technician - Diploma (p. 266)

## Certificates

- Chemical Operator - Certificate (p. 267)
- Controls and Automation Technician - Certificate (p. 267)
- Electro-hydraulic Technician - Certificate (p. 267)
- Fluid Power Mechanic - Certificate (p. 268)
- Industrial Maintenance Electrical Mechanic - Certificate (p. 268)
- Industrial Maintenance Machinists Mechanic - Certificate (p. 268)
- Industrial Maintenance Mechanic Level I - Certificate (p. 269)
- Industrial Maintenance Mechanic Level II - Certificate (p. 269)
- Industrial Maintenance Robotics Technician - Certificate (p. 269)
- Presswork and Die Maintenance Technician Level I - Certificate (p. 270)
- Presswork and Die Maintenance Technician Level II - Certificate (p. 270)

## Approved Technical Electives List

Course	Title	Credits
ACR 100	Refrigeration Fundamentals	3
ACR 101	Refrigeration Fundamentals Lab	2
ACR 102	HVAC Electricity	3
ACR 103	HVAC Electricity Lab	2
ACR 112	Sheet Metal Fabrication	3
ACR 113	Sheet Metal Fabrication Lab	2
ACR 130	Electrical Components	3
ACR 131	Electrical Components Lab	2
ACR 170	Heat Load/Duct Design	3
ACR 200	Commercial Refrigeration	3
ACR 201	Commercial Refrigeration Lab	2
ACR 206	Boilers	5
ACR 207	Commercial HVAC Systems	5
ACR 208	Chillers	4
ACR 209	Manual N Commercial Load Calculation and Design	4
ACR 210	Ice Machines	3
ACR 250	Cooling and Dehumidification	3
ACR 251	Cooling and Dehumidification Lab	2
ACR 260	Heating and Humidification	3
ACR 262	Heating and Humidification Lab	2
ACR 270	Heat Pump Application	3
ACR 271	Heat Pump Application Lab	2
ACR 290	Journeyman Preparation	3
AIT 130	Measurement and Instrumentation	4
AIT 140	Industrial Controls I	4
AIT 150	Industrial Controls II	4
AIT 160	Workplace Safety	1
AIT 200	Process Management and Quality Control	4
BRX 110	Basic Blueprint Reading for Machinist	2
BRX 112	Blueprint Reading for Machinist	4
BRX 120	Basic Blueprint Reading	3

BRX 210	Mechanical Blueprint Reading	2
CAD 100	Introduction to Computer Aided Design <sup>1</sup>	3
CAD 112	Engineering Graphics	4
CAD 120	Introduction to Architecture	4
CAD 150	Programming in CAD	4
CAD 200	Intermediate Computer Aided Drafting	4
CAD 201	Parametric Modeling	4
CAD 212	Industrial Drafting Processes	4
CAD 216	Building Information Modeling	4
CAD 220	Architectural Design	4
CAD 222	Mechanical Design	4
CAD 230	Construction Techniques	4
CAD 240	Advanced Dimensioning and Measurement	4
CAD 292	Industrial Applications	4
CMM 110	Fundamentals of Machine Tools - A	3
CMM 112	Fundamentals of Machine Tools - B	3
CMM 114	Fundamentals of Machine Tools	6
CMM 118	Metrology/Control Charts	2
CMM 120	Applied Machining I	3
CMM 122	Applied Machining II	3
CMM 124	Applied Machining	6
CMM 130	Manual Programming	3
CMM 132	CAD/CAM/CNC	3
CMM 134	Manual Programming CAD/CAM/CNC	6
CMM 138	Intro. to Programming & CNC Machines	6
CMM 150	Shop Theory	2
CMM 151	Machinery's Handbook and Metallurgy	3
CMM 152	Jigs, Fixtures and Gaging	3
CMM 153	Mold Theory	3
CMM 154	Die Theory	3
CMM 210	Industrial Machining I	3
CMM 212	Industrial Machining II	3
CMM 214	Industrial Machining	6
CMM 218	Advanced Machining Techniques for Manufacturing	8
CMM 220	Advanced Industrial Machining I	4
CMM 222	Advanced Industrial Machining II	2
CMM 224	Advanced Industrial Machining	6
CMM 230	Conversational Programming	6
CMM 234	CNC Machines & Coding Practices	6
CMM 240	Introduction to 3-D Programming	6
CMM 244	Advance Programming/Setup Practices	6
CMM 298	Practicum	1
COE 199	Cooperative Education: (Topic)	1-8
DPT 100	Introduction to 3D Printing Technology	3
DPT 102	3D Printing Technology Fundamentals	2
DPT 150	Introduction to Engineering Mechanics for 3D Printing	3
DPT 280	Special Projects for 3D Printing, Level I	1
EET 116	Fiber Optics Systems	3
EET 119	Basic Electricity	5
EET 127	Electrical Technology Capstone	1

EET 148	Electronic Drafting	3	ELT 224	Basic Telecommunications Installation and Maintenance	3
EET 150	Transformers	2	ELT 232	Computer Software Maintenance	3
EET 151	Transformers Lab	1	ELT 234	Computer Hardware Maintenance	3
EET 154	Electrical Construction I	2	ELT 240	Communications Electronics	6
EET 155	Electrical Construction I Lab	2	ELT 244	Electrical Machinery and Controls	4
EET 200	Robotic Systems I	2	ELT 250	Programmable Logic Controllers	4
EET 201	Robotic Systems II	2	ELT 260	Robotic and Industrial Automation	5
EET 202	Robotic Maintenance	2	ELT 261	Instrumentation and Measurements	3
EET 203	Robotic Vision Systems	2	ELT 264	Mechanical Design	4
EET 250	National Electrical Code	4	ELT 265	Applied Fluid Power	3
EET 252	Electrical Construction II	2	ELT 289	Engineering and Electronics Technology Capstone	1
EET 253	Electrical Construction II Lab	2	FPX 100	Fluid Power	3
EET 254	Electrical Construction	3	FPX 101	Fluid Power Lab	2
EET 255	Electrical Construction Lab	4	IET 104	Blueprint Reading/Schematics	2
EET 264	Rotating Machinery	2	IET 111	Lean Safety Culture	1
EET 265	Rotating Machinery Lab	2	IET 112	Lean Manufacturing Concepts -TPS	1
EET 266	Rotating Machinery and Transformers	3	IET 113	Lean 5S Methodology	1
EET 267	Rotating Machinery and Transformers Lab	3	IET 114	Lean Problem Solving Methodology	1
EET 268	Rotating Machinery Electrical Motor Controls I	3	IET 115	Lean Machine Reliability	1
EET 269	Rotating Machinery and Motor Controls I Lab	4	IMT 100	Welding for Maintenance	3
EET 270	Electrical Motor Controls I	2	IMT 101	Welding for Maintenance Lab	2
EET 271	Electrical Motor Controls I Lab	2	IMT 110	Industrial Maintenance Electrical Principles	3
EET 272	Electrical Motor Controls II	2	IMT 111	Industrial Maintenance Electrical Principles Lab	2
EET 273	Electrical Motor Controls II Lab	2	IMT 115	Maintenance Machining I	2
EET 274	Electrical Motor Controls	3	IMT 116	Maintenance Machining I Lab	5
EET 275	Electrical Motor Controls Lab	4	IMT 120	Industrial Maintenance Rotating Machinery	3
EET 276	Programmable Logic Controllers	2	IMT 121	Industrial Maintenance Rotating Machinery Lab	2
EET 277	Programmable Logic Controllers Lab	2	IMT 138	Lean Manufacturing	5
EET 280	Multi-Platform Programmable Logic Controllers	4	IMT 1381	Safety Culture	1
EET 281	Special Problems I	1	IMT 1382	5S	1
EET 283	Special Problems II	2	IMT 1383	Total Production Management	1
EET 285	Special Problems III	3	IMT 1384	Problem Solving	1
EET 286	Programmable Logic Controllers II	2	IMT 1385	Maintenance Reliability	1
EET 287	Programmable Logic Controllers II Lab	2	IMT 140	Industrial Mechanics	3
EET 290	Troubleshooting Industrial Controls and Motors	4	IMT 141	Industrial Mechanics Lab	1
EET 295	Alternative Energy Photovoltaic and Wind Electrical Generations Systems	4	IMT 150	Maintaining Industrial Equipment I	3
ELT 102	Blueprint Reading	2	IMT 151	Maintaining Industrial Equipment I Lab	2
ELT 103	Introduction to Engineering	3	IMT 160	FANUC Robot Operations	2
ELT 106	Mechanical Engineering Graphics	2	IMT 161	KUKA Robot Level 1 Robot Operation	2
ELT 110	Circuits I	5	IMT 162	YASKAWA/MOTOMAN Robot Operations	2
ELT 114	Circuits II	5	IMT 198	Practicum	1-8
ELT 118	Computer Numerical Control	3	IMT 199	Cooperative Education	1-8
ELT 120	Digital I	3	IMT 200	Industrial Robotics and Robotic Maintenance	4
ELT 122	Mechanical Power Transmission Systems	3	IMT 220	Industrial Maintenance Electrical Motor Controls I	3
ELT 124	Mechanical Power Transmission Systems Lab	1	IMT 221	Industrial Maintenance Electrical Motor Controls I Lab	2
ELT 201	Statics and Strength of Materials	4	IMT 222	Industrial Maintenance Motor Controls II	2
ELT 210	Devices I	4	IMT 223	Industrial Maintenance Motor Controls II Lab	2
ELT 214	Devices II	4	IMT 230	Industrial Maintenance of PLCs	5
ELT 220	Digital II	3	IMT 231	Industrial Maintenance of PLC's Lab	2
ELT 222	Mechanics of Telephony	3	IMT 240	Industrial Maintenance Motor Control Concepts	6

IMT 241	Industrial Maintenance Motor Control Concepts Lab	4
IMT 250	Maintaining Industrial Equipment II	2
IMT 251	Maintaining Industrial Equipment II Lab	3
IMT 260	Presswork and Die Maintenance	7
IMT 280	Advanced Programmable Logic Controllers	3
IMT 281	Advanced Programmable Logic Controllers Lab	2
IMT 282	PLC Programming Languages	3
IMT 289	Industrial Maintenance Technology Capstone	1
IMT 290	Special Problems	1
ISM 102	Fundamentals of Instrumentation	4
ISM 210	Fundamentals of Process Control	4
ISX 100	Industrial Safety	3
ISX 101	Introduction to Industrial Safety	3
ISX 105	General Industrial Safety	2
MFG 265	Robotics and Industrial Automation	4
MST 200	Advanced Hydraulic Systems	3
MST 201	Advanced Hydraulic Systems Lab	2
MST 204	Advanced Pneumatic Systems	3
MST 205	Advanced Pneumatic Systems Lab	2
MST 206	Electrohydraulics	3
MST 207	Electrohydraulics Lab	2
PLB 150	Plumbing, Introduction to the Trade	3
PLB 151	Basic Plumbing Skills	3
PHS 175	Applied Physics	6
PHX 150	Introductory Physics	3
PMX 100	Precision Measurement	3
WLD 100	Oxy-Fuel Systems	2
WLD 101	Oxy-Fuel Systems Lab	2
WLD 110	Cutting Processes	2
WLD 111	Cutting Processes Lab	3
WLD 120	Shielded Metal Arc Welding	2
WLD 121	Shielded Metal Arc Welding Fillet Lab	3
WLD 123	Shielded Metal Arc Welding Groove with Backing Lab	3
WLD 130	Gas Tungsten Arc Welding	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab	3
WLD 133	Gas Tungsten Arc Welding Groove Lab	3
WLD 140	Gas Metal Arc Welding	2
WLD 141	Gas Metal Arc Welding Fillet Lab	3
WLD 143	Gas Metal Arc Welding Groove Lab	3
WLD 145	Gas Metal Arc Welding Aluminum Lab	1
WLD 147	Flux Cored Arc Welding Lab	1
WLD 151	Basic Welding A	2
WLD 152	Basic Welding B	5
WLD 161	Submerged Arc Welding Lab	1
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 181	Advanced Welding Systems Lab	1
WLD 198	Special Topics in Welding	1-6
WLD 220	Welding Certification	2
WLD 221	Welding Certification Lab	3

WLD 225	Shielded Metal Arc Welding Open Groove Lab	3
WLD 227	Shielded Metal Arc Welding Pipe Lab A	3
WLD 229	Shielded Metal Arc Welding Pipe Lab B	3
WLD 235	Gas Tungsten Arc Welding Pipe Lab A	3
WLD 237	Gas Tungsten Arc Welding Pipe Lab B	3
WLD 239	Orbital Tube Welding	1
WLD 245	Gas Metal Arc Welding Pipe Lab A	3
WLD 247	Gas Metal Arc Welding Pipe Lab B	3
WLD 251	Welding Automation Lab	1-6
WLD 253	Pipe Fitting and Template Development Lab	1
WLD 298	Welding Practicum	1-6
WPP 200	Workplace Principles	3

<sup>1</sup> or Modules CAD 1001 CAD Basics (0.75 credit hours) - CAD 1004 Dimensioning (0.75 credit hours).

## Industrial Maintenance Technology - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703037019

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education Core</b>		
ENG 101	Writing I	3
MAT 116	Technical Mathematics (or higher)	3
Natural Sciences		3
Heritage/Humanities		3
Social/Behavioral Sciences		3
Oral Communications		3
General Education Core Subtotal		18

*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Advanced Manufacturing Technician Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 470303702



Progression in the Advanced Manufacturing Technician Track is contingent upon achievement of a grade “C” or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Advanced Manufacturing Track require a “C” or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>Required</b>		
General Education Core Subtotal		18
<b>Technical Core</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
BRX 120	Basic Blueprint Reading	3
CMM 110	Fundamentals of Machine Tools - A	3
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	4
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	4
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	4
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	5
IMT 1381 or IET 111	Safety Culture Lean Safety Culture	1
IMT 1382 or IET 113	5S Lean 5S Methodology	1
IMT 1383 or IET 112	Total Production Management Lean Manufacturing Concepts -TPS	1
IMT 1384 or IET 114	Problem Solving Lean Problem Solving Methodology	1
IMT 1385 or IET 115	Maintenance Reliability Lean Machine Reliability	1
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	5
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	5
IMT 200	Industrial Robotics and Robotic Maintenance	4
IMT 289	Industrial Maintenance Technology Capstone	1
<b>Total Credits</b>		<b>66-69</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

Note: Only Integrated Engineering Technology (IET) courses are approved for substitution into the Advanced Manufacturing Technician Track.

Note: Minimum of 1,824 hours of Industry Sponsored Internship.

## Automotive Manufacturing Technical Education Collaborative (AMTEC) Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community

and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 470303703

Progression in the Automotive Manufacturing Technical Education Collaborative (AMTEC) Track is contingent upon achievement of a grade of “C” or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Automotive Manufacturing Technical Education Collaborative (AMTEC) track require a “C” or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>Required</b>		
General Education Core Subtotal		18
<b>Technical Core</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following three options:		2-3
BRX 120	Basic Blueprint Reading	
BRX 110	Basic Blueprint Reading for Machinist	
ELT 102	Blueprint Reading	
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	5
Select one of the following five options:		4-5
IMT 220 & IMT 221	Industrial Maintenance Electrical Motor Controls I and Industrial Maintenance Electrical Motor Controls I Lab	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
ELT 244	Electrical Machinery and Controls	
IMT 120 & IMT 121	Industrial Maintenance Rotating Machinery and Industrial Maintenance Rotating Machinery Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
WLD 152	Basic Welding B	
IMT 289	Industrial Maintenance Technology Capstone	1

IET 109	Safety	3
IET 120	Machine Tool Operations	4
IET 203	Programmable Logic Controllers	5
IET 205	Robot Maintenance	4
IMT 1381	Safety Culture	1
or IET 111	Lean Safety Culture	
IMT 1382	5S	1
or IET 113	Lean 5S Methodology	
IMT 1383	Total Production Management	1
or IET 112	Lean Manufacturing Concepts -TPS	
IMT 1384	Problem Solving	1
or IET 114	Lean Problem Solving Methodology	
IMT 1385	Maintenance Reliability	1
or IET 115	Lean Machine Reliability	
<b>Total Credits</b>		<b>64-71</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Advanced Manufacturing Tool and Die Technician Track

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 470303704

Progression in the Advanced Manufacturing Tool and Die Technician Track is contingent upon achievement of a grade of "C" or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Advanced Manufacturing Track require a "C" or better in all courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>Required</b>		
General Education Core Subtotal		18
<b>Technical Core</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
BRX 120	Basic Blueprint Reading	3
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	5
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	4
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	5
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	5
IMT 289	Industrial Maintenance Technology Capstone	1
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	5
CMM 110	Fundamentals of Machine Tools - A	3
CMM 112	Fundamentals of Machine Tools - B	3

IMT 260	Presswork and Die Maintenance	7
IMT 1381	Safety Culture	1
or IET 111	Lean Safety Culture	
IMT 1382	5S	1
or IET 113	Lean 5S Methodology	
IMT 1383	Total Production Management	1
or IET 112	Lean Manufacturing Concepts -TPS	
IMT 1384	Problem Solving	1
or IET 114	Lean Problem Solving Methodology	
IMT 1385	Maintenance Reliability	1
or IET 115	Lean Machine Reliability	
<b>Total Credits</b>		<b>64-67</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Industrial Maintenance Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 470303701

Progression in the Industrial Maintenance Track is contingent upon achievement of a grade of "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). The diploma and certificates within the Industrial Maintenance Track require a "C" or better in each technical course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>Required</b>		
General Education Core Subtotal		18
<b>Technical Core</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following four options:		2-3
BRX 110	Basic Blueprint Reading for Machinist	
BRX 120	Basic Blueprint Reading	
ELT 102	Blueprint Reading	
CAD 100	Introduction to Computer Aided Design	
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	

IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	5
Select one of the following:		4-5
IMT 220 & IMT 221	Industrial Maintenance Electrical Motor Controls I and Industrial Maintenance Electrical Motor Controls I Lab	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
ELT 244	Electrical Machinery and Controls	
IMT 120 & IMT 121	Industrial Maintenance Rotating Machinery and Industrial Maintenance Rotating Machinery Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
Select one of the following four options:		4-5
IMT 280 & IMT 281	Advanced Programmable Logic Controllers and Advanced Programmable Logic Controllers Lab	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
IET 203	Programmable Logic Controllers	
ELT 250	Programmable Logic Controllers	
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
WLD 152	Basic Welding B	
IMT 289	Industrial Maintenance Technology Capstone	1
<b>Technical Electives</b>		
Select thirteen credit hours of Approved Technical Electives. Other technical elective courses may be taken with approval of the program coordinator. <sup>2</sup>		13
<b>Total Credits</b>		<b>60-68</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

<sup>2</sup> Industrial Maintenance Technology approved technical electives list (p. 261)

## Industrial Maintenance Technician - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703034049

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		3
Select one of the following three options:		
	Written Communication	
	Oral Communications	
	Heritage/Humanities	
<i>Area 2</i>		3
MAT 116	Technical Mathematics (or higher)	
Subtotal		6
<b>Technical Core</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Select one of the following four options:		2-3
BRX 120	Basic Blueprint Reading	
BRX 110	Basic Blueprint Reading for Machinist	
ELT 102	Blueprint Reading	
CAD 100	Introduction to Computer Aided Design	
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 150 & IMT 151	Maintaining Industrial Equipment I and Maintaining Industrial Equipment I Lab	5
Select one of the following five options:		4-5
IMT 220 & IMT 221	Industrial Maintenance Electrical Motor Controls I and Industrial Maintenance Electrical Motor Controls I Lab	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
ELT 244	Electrical Machinery and Controls	
IMT 120 & IMT 121	Industrial Maintenance Rotating Machinery and Industrial Maintenance Rotating Machinery Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
Select one of the following four options:		4-5
IMT 280 & IMT 281	Advanced Programmable Logic Controllers and Advanced Programmable Logic Controllers Lab	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
IET 203	Programmable Logic Controllers	
ELT 250	Programmable Logic Controllers	
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	

WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
WLD 152	Basic Welding B	
IMT 289	Industrial Maintenance Technology Capstone	1
<b>Subtotal</b>		<b>29-37</b>
<b>Technical Electives</b>		
Select thirteen credit hours of electives from the approved list. The list is not all inclusive. Other technical elective courses may be taken with approval of the program coordinator. <sup>2</sup>		13
<b>Subtotal</b>		<b>13</b>
<b>Total Credits</b>		<b>48-56</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

<sup>2</sup> Industrial Maintenance Technology approved technical elective list (p. 261)

## Chemical Operator - Certificate

**Offered at:** Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703033179

**Curriculum Effective Spring Semester**

Course	Title	Credits
CHE 140	Introductory General Chemistry	3
CHE 145	Introductory General Chemistry Laboratory	1
GEN 276	Employment and Professional Skills	1
IMT 140	Industrial Mechanics	3
IMT 141	Industrial Mechanics Lab	1
ITE 250		3
ISX 100	Industrial Safety	3
MAT 116	Technical Mathematics	3
PHX 150	Introductory Physics	3
QMS 101	Introduction to Quality Systems	3
TEC 200	Technical Communications	3
Digital Literacy Course or demonstrated competency		0-3
<b>Total Credits</b>		<b>27-30</b>

## Controls and Automation Technician - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4703033249

**Curriculum Effective Spring Semester**

Course	Title	Credits
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	
Select one of the following four options:		4-5
IMT 220 & IMT 221	Industrial Maintenance Electrical Motor Controls I and Industrial Maintenance Electrical Motor Controls I Lab	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
ELT 244	Electrical Machinery and Controls	
IMT 120 & IMT 121	Industrial Maintenance Rotating Machinery and Industrial Maintenance Rotating Machinery Lab	
Select one of the following two options:		4
IMT 222 & IMT 223	Industrial Maintenance Motor Controls II and Industrial Maintenance Motor Controls II Lab	
EET 272 & EET 273	Electrical Motor Controls II and Electrical Motor Controls II Lab	
Select one of the following five options:		4-7
IMT 230 & IMT 231	Industrial Maintenance of PLCs and Industrial Maintenance of PLC's Lab	
IMT 280 & IMT 281	Advanced Programmable Logic Controllers and Advanced Programmable Logic Controllers Lab	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
IET 203	Programmable Logic Controllers	
ELT 250	Programmable Logic Controllers	
IMT 282	PLC Programming Languages	3
IMT 200 or ELT 260	Industrial Robotics and Robotic Maintenance Robotic and Industrial Automation	4-5
<b>Total Credits</b>		<b>24-29</b>

## Electro-hydraulic Technician - Certificate

**Offered at:** Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 4703033169

**Curriculum Effective Spring Semester**

Course	Title	Credits
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	

Select one of the following two options: 3-5

FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
MST 206	Electrohydraulics	3
MST 207	Electrohydraulics Lab	2

**Total Credits** 13-15

## Fluid Power Mechanic - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 4703033129

### Curriculum Effective Spring Semester

Course	Title	Credits
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Select one of the following two options: 3-5

FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	

Select one of the following two options: 5

MST 200 & MST 201	Advanced Hydraulic Systems and Advanced Hydraulic Systems Lab	
MST 204 & MST 205	Advanced Pneumatic Systems and Advanced Pneumatic Systems Lab	

**Total Credits** 8-10

## Industrial Maintenance Electrical Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703033159

### Curriculum Effective Spring Semester

Course	Title	Credits
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Select one of the following two options: 3-5

FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	

Select one of the following three options: 5

IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
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ELT 110	Circuits I	
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EET 119	Basic Electricity	
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Select one of the following nine options: 4-5

IMT 220 & IMT 221	Industrial Maintenance Electrical Motor Controls I and Industrial Maintenance Electrical Motor Controls I Lab	
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EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
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ELT 244	Electrical Machinery and Controls	
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IMT 120 & IMT 121	Industrial Maintenance Rotating Machinery and Industrial Maintenance Rotating Machinery Lab	
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EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
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IMT 280 & IMT 281	Advanced Programmable Logic Controllers and Advanced Programmable Logic Controllers Lab	
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EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
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IET 203	Programmable Logic Controllers	
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ELT 250	Programmable Logic Controllers	
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**Total Credits** 12-15

## Industrial Maintenance Machinists Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703033119

### Curriculum Effective Spring Semester

Course	Title	Credits
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Select one of the following five options: 2-4

BRX 120	Basic Blueprint Reading	
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BRX 110	Basic Blueprint Reading for Machinist	
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BRX 112	Blueprint Reading for Machinist	
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ELT 102	Blueprint Reading	
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CAD 100	Introduction to Computer Aided Design	
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Select one of the following four options: 5

IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
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WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
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WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
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WLD 152	Basic Welding B	
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Select one of the following three options: 6-7



IMT 115 & IMT 116	Maintenance Machining I and Maintenance Machining I Lab	
CMM 114	Fundamentals of Machine Tools	
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
<b>Total Credits</b>		<b>18-21</b>

## Industrial Maintenance Mechanic Level I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703033139

### Curriculum Effective Spring Semester

Course	Title	Credits
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
<b>Total Credits</b>		<b>13-15</b>

## Industrial Maintenance Mechanic Level II - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703033149

### Curriculum Effective Spring Semester

Course	Title	Credits
Select one of the following five options:		2-4
BRX 120	Basic Blueprint Reading	
BRX 110	Basic Blueprint Reading for Machinist	
BRX 112	Blueprint Reading for Machinist	
ELT 102	Blueprint Reading	
CAD 100	Introduction to Computer Aided Design	
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	
EET 119	Basic Electricity	
Select one of the following four options:		5
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab	
WLD 152	Basic Welding B	
Select one of the following three options:		6-7
IMT 115 & IMT 116	Maintenance Machining I and Maintenance Machining I Lab	
CMM 114	Fundamentals of Machine Tools	
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
<b>Total Credits</b>		<b>21-26</b>

## Industrial Maintenance Robotics Technician - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4703033239

### Curriculum Effective Spring Semester

Course	Title	Credits
Select one of the following three options:		5
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 110	Circuits I	

EET 119	Basic Electricity	
Select one of the following two options:		3-5
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 265	Applied Fluid Power	
Select one of the following five options:		4-5
IMT 220 & IMT 221	Industrial Maintenance Electrical Motor Controls I and Industrial Maintenance Electrical Motor Controls I Lab	
EET 270 & EET 271	Electrical Motor Controls I and Electrical Motor Controls I Lab	
ELT 244	Electrical Machinery and Controls	
IMT 120 & IMT 121	Industrial Maintenance Rotating Machinery and Industrial Maintenance Rotating Machinery Lab	
EET 264 & EET 265	Rotating Machinery and Rotating Machinery Lab	
Select one of the following four options:		4-5
IMT 280 & IMT 281	Advanced Programmable Logic Controllers and Advanced Programmable Logic Controllers Lab	
IET 203	Programmable Logic Controllers	
ELT 250	Programmable Logic Controllers	
EET 276 & EET 277	Programmable Logic Controllers and Programmable Logic Controllers Lab	
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
Select one of the following three options:		4-5
IMT 200	Industrial Robotics and Robotic Maintenance	
ELT 260	Robotic and Industrial Automation	
EET 201 & EET 202	Robotic Systems II and Robotic Maintenance	
<b>Total Credits</b>		<b>25-30</b>

## Presswork and Die Maintenance Technician Level I - Certificate

**Offered at:** Elizabethtown Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 4703033209

**Curriculum Effective Spring Semester**

Course	Title	Credits
Select one of the following three options:		
IMT 115 & IMT 116	Maintenance Machining I and Maintenance Machining I Lab	
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
IMT 260	Presswork and Die Maintenance	7
<b>Total Credits</b>		<b>18-19</b>

## Presswork and Die Maintenance Technician Level II - Certificate

**Offered at:** Elizabethtown Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 4703033219

**Curriculum Effective Spring Semester**

Course	Title	Credits
Select one of the following three options:		
IMT 115 & IMT 116	Maintenance Machining I and Maintenance Machining I Lab	
CMM 110 & CMM 112	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B	
CMM 114	Fundamentals of Machine Tools	
IMT 100 & IMT 101	Welding for Maintenance and Welding for Maintenance Lab	5
IMT 260	Presswork and Die Maintenance	7
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
IMT 110	Industrial Maintenance Electrical Principles	3
IMT 111	Industrial Maintenance Electrical Principles Lab	2
IMT 220	Industrial Maintenance Electrical Motor Controls I	3
IMT 221	Industrial Maintenance Electrical Motor Controls I Lab	2
<b>Total Credits</b>		<b>33-34</b>

## Insurance Risk Management

The certificate program in Insurance and Risk Management is a four-course (12 credit hour) credential. Students will learn the foundations of insurance production and multiple lines insurance production. Students will also master the fundamentals of operating an agency and managing sales. Completers of this certificate program will be eligible to sit for the national Accredited Advisor in Insurance (AAI) Certification exam.

### Certificates

- Insurance and Risk Management - Certificate (p. 270)

## Insurance and Risk Management - Certificate

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 5217013019

Course	Title	Credits
INS 100	Introduction to Insurance and Risk Management	3
INS 181	Foundations of Insurance Production	3
INS 182	Multiple Lines Insurance Production	3
INS 183	Agency Operations and Sales Management	3
<b>Total Credits</b>		<b>12</b>

## Integrated Engineering Technology

The Integrated Engineering Technology Program is a multi-disciplinary, design-project-based program. Integrated technology skills offer students the opportunity to pursue a career in installing and maintaining integrated manufacturing systems found in advanced manufacturing along with design improvements from the floor level perspective. With lean manufacturing processes as the focused approach, the program exposes students to lean concepts that apply to the technical aspects of electrical and mechanical integrated technology that are essential in the designing, installing, maintaining, and troubleshooting of highly automated and complex manufacturing systems. The program includes a study of the importance of personal professional behavior in the workplace and presentation skills that are implemented into all individual technical courses within the curriculum. Technical instruction components consist of the study of programmable logic controllers, robots, and various types of mechanical and programmable drives, electronic input and output sensing devices, and electro-hydraulic and pneumatic systems and equipment.

## Degrees

- Integrated Engineering Technology - AAS (p. 271)

## Diplomas

- Integrated Engineering Technology - Diploma (p. 271)

## Certificates

- Electrical Engineering Technology - Certificate (p. 272)
- Mechanical Engineering Technology - Certificate (p. 272)

## Integrated Engineering Technology - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1442017019

Course	Title	Credits
<b>General Education Courses</b>		
ENG 101	Writing I	3
PHY 151	Introductory Physics I	3
COM 181	Basic Public Speaking	3
SOC 101	Introduction to Sociology	3
Select one of the following three options:		3-6
MAT 126	Technical Algebra and Trigonometry	
MAT 126 & MAT 150	Technical Algebra and Trigonometry and College Algebra <sup>1</sup>	
MAT 150 & MAT 155	College Algebra and Trigonometry <sup>1</sup>	
Heritage/Humanities		3
<b>Subtotal</b>		<b>18-21</b>
<b>Technical Courses</b>		
CAD 100	Introduction to Computer Aided Design	3
IET 104	Blueprint Reading/Schematics	2
IET 110	Welding and Fabrication	4
IET 111	Lean Safety Culture	1

IET 112	Lean Manufacturing Concepts -TPS	1
IET 113	Lean 5S Methodology	1
IET 114	Lean Problem Solving Methodology	1
IET 115	Lean Machine Reliability	1
IET 121	Basic Electricity	4
IET 128 or CMM 110	Introduction to Machine Tool Operation Fundamentals of Machine Tools - A	3
IET 202	Motor Controls and Sensing Devices	4
IET 204	Automated Motor Controls	6
IET 205	Robot Maintenance	4
IET 207	Electro-Hydraulics and Pneumatics	4
IET 208	Mechanical Drives	4
<b>Subtotal</b>		<b>43</b>
<b>Total Credits</b>		<b>61-64</b>

<sup>1</sup> Students planning on completing the University of Kentucky Lean Engineering Technology pathway must complete the courses included above plus the additional 9 hours shown below.  
 ENG 102 Writing II (3 credit hours)  
 MAT 170 Brief Calculus with Applications (3 credit hours)  
 Social & Behavioral Sciences Course

## Integrated Engineering Technology - Diploma

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1442014019

Course	Title	Credits
<b>Required</b>		
<b>Area 1</b>		
Select one of the following three options:		3
ENG 101	Writing I	
COM 181	Basic Public Speaking	
Heritage/Humanities		
<b>Area 2</b>		
Select one of the following two options:		3
MAT 126	Technical Algebra and Trigonometry	
Higher Level Quantitative Reasoning Course		
<b>Subtotal</b>		<b>6</b>
<b>Technical Courses</b>		
Digital literacy Course (CIT 105 or OST 105)		3
IET 104	Blueprint Reading/Schematics	2
IET 121	Basic Electricity	4
IET 202	Motor Controls and Sensing Devices	4
IET 204	Automated Motor Controls	6
IET 205	Robot Maintenance	4
IET 207	Electro-Hydraulics and Pneumatics	4
IET 208	Mechanical Drives	4
IET 110	Welding and Fabrication	4
IET 128 or CMM 110	Introduction to Machine Tool Operation Fundamentals of Machine Tools - A	3
IET 111	Lean Safety Culture	1

IET 112	Lean Manufacturing Concepts -TPS	1
IET 113	Lean 5S Methodology	1
IET 114	Lean Problem Solving Methodology	1
IET 115	Lean Machine Reliability	1
Subtotal		43
<b>Total Credits</b>		<b>49</b>

## Electrical Engineering Technology - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1442013029

Course	Title	Credits
IET 121	Basic Electricity	4
IET 204	Automated Motor Controls	6
IET 205	Robot Maintenance	4
IET 202	Motor Controls and Sensing Devices	4
<b>Total Credits</b>		<b>18</b>

## Mechanical Engineering Technology - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 1442013019

Course	Title	Credits
IET 104	Blueprint Reading/Schematics	2
IET 207	Electro-Hydraulics and Pneumatics	4
IET 208	Mechanical Drives	4
IET 110	Welding and Fabrication	4
IET 128	Introduction to Machine Tool Operation	3
or CMM 110	Fundamentals of Machine Tools - A	
<b>Total Credits</b>		<b>17</b>

## Interdisciplinary Early Childhood Education

The Interdisciplinary Early Childhood Education Program is designed to provide students an understanding of the cognitive, physical, social and emotional development for working with young children. Opportunities to apply this knowledge in practical experiences are incorporated in the curriculum. Curriculum topics include, but are not limited, to developmental ages and stages, health and safety, curriculum planning, assessment and family involvement. Employment opportunities are available in public and private preschools, early care educational settings, early intervention programs, Head Start, hospitals, campus child development centers, rehabilitation clinics and recreation centers.

Progression in the IECE Program is contingent upon the achievement of a grade of "C" or higher in each IECE course in order to graduate.

## Degrees

- Interdisciplinary Early Childhood Education - AAS (p. 272)

## Diplomas

- Interdisciplinary Early Childhood Education - Diploma (p. 273)

## Certificates

- Child Care Assistant - Certificate (p. 273)
- Early Childhood Administrator - Certificate (p. 273)
- Interdisciplinary Early Childhood Education Technical Studies - Certificate (p. 274)
- Kentucky Child Care Provider - Certificate (p. 274)
- School Age Child Care - Certificate (p. 274)

## Interdisciplinary Early Childhood Education - AAS

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1907097019

**May be available completely online. Please check with your academic advisor.**

Progression in the IECE Program is contingent upon the achievement of a grade of "C" or higher in each IECE course in order to graduate.

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
ENG 102	Writing II	3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
PSY 110	General Psychology	3
Heritage/Humanities		3
Natural Sciences		3-4
Quantitative Reasoning		3
Subtotal		21-22
<b>Technical Core Courses</b>		
Digital Literacy course or demonstrated competency		0-3
IEC 101	Orientation to Early Childhood Education	3
IEC 102	Foundations of Early Childhood Education	3
IEC 130	Early Childhood Development	3
IEC 170	Observation and Assessment	3
IEC 180	Approaches to Early Childhood Education Curriculum	3
IEC 200	Child Guidance	3
IEC 216	Literacy and Language in IECE	3
IEC 221	Creative Expressions in IECE	3
IEC 235	Introduction to Inclusive Education	3
IEC 246	Sciences and Math in IECE	3

IEC 291	IECE Practicum/Cooperative Education	3
Subtotal		33-36
<b>Approved Technical Support Elective Courses</b>		
Select two of the following six options:		6
IEC 210	Families and Communities in Early Childhood Education	
IEC 230	Business Administration of ECE Programs	
BAS 200	Small Business Management	
IEC 240	Administration of Early Childhood Education	
IEC 250	School Age Child Care	
IEC 260	Infant and Toddler Education and Programming	
Subtotal		6
<b>Total Credits</b>		<b>60-64</b>

## Interdisciplinary Early Childhood Education - Diploma

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 1907094019

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Heritage/Humanities	
<i>Area 2</i>		
Select one of the following two options:		3
	Social/Behavioral Sciences	
	Quantitative Reasoning	
Subtotal		6
Digital Literacy course or demonstrated competency		0-3
IEC 101	Orientation to Early Childhood Education	3
IEC 102	Foundations of Early Childhood Education	3
IEC 130	Early Childhood Development	3
IEC 170	Observation and Assessment	3
IEC 180	Approaches to Early Childhood Education Curriculum	3
IEC 200	Child Guidance	3
IEC 216	Literacy and Language in IECE	3
IEC 221	Creative Expressions in IECE	3
IEC 235	Introduction to Inclusive Education	3
IEC 246	Sciences and Math in IECE	3
IEC 291	IECE Practicum/Cooperative Education	3

Subtotal		33-36
<b>Approved Technical Support Elective Courses</b>		
Select two of the following five options:		6
IEC 230	Business Administration of ECE Programs	
or BAS 200	Small Business Management	
IEC 240	Administration of Early Childhood Education	
IEC 250	School Age Child Care	
IEC 260	Infant and Toddler Education and Programming	
IEC 210	Families and Communities in Early Childhood Education	
Subtotal		6
<b>Total Credits</b>		<b>45-48</b>

## Child Care Assistant - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1907093039

**May be available completely online. Please check with your academic advisor.**

Course Required	Title	Credits
IEC 101	Orientation to Early Childhood Education	3
IEC 102	Foundations of Early Childhood Education	3
Any IEC three hour course with the exception of the following four options:		3
IEC 230	Business Administration of ECE Programs	
IEC 250	School Age Child Care	
IEC 291	IECE Practicum/Cooperative Education	
BAS 200	Small Business Management	
<b>Total Credits</b>		<b>9</b>

## Early Childhood Administrator - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1907093059



May be available completely online. Please check with your academic advisor.

Course	Title	Credits
<b>Options</b>		
Select one of the following two options:		12
<i>Option One: Course Work</i>		
Required:		
IEC 101	Orientation to Early Childhood Education	
IEC 102	Foundations of Early Childhood Education	
IEC 230	Business Administration of ECE Programs	
or BAS 200	Small Business Management	
IEC 240	Administration of Early Childhood Education	
<i>Option Two:</i>		
With a current Child Development Associate (CDA) articulated credit for IEC 101 and IEC 102:		
Required:		
IEC 240	Administration of Early Childhood Education	
IEC 230	Business Administration of ECE Programs	
or BAS 200	Small Business Management	
<b>Total Credits</b>		<b>12</b>

## Interdisciplinary Early Childhood Education Technical Studies - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1907093019

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
<b>Required</b>		
IEC 101	Orientation to Early Childhood Education	3
IEC 102	Foundations of Early Childhood Education	3
IEC 130	Early Childhood Development	3
IEC 170	Observation and Assessment	3
IEC 180	Approaches to Early Childhood Education Curriculum	3
IEC 200	Child Guidance	3
IEC 216	Literacy and Language in IECE	3
IEC 221	Creative Expressions in IECE	3
IEC 246	Sciences and Math in IECE	3
IEC 235	Introduction to Inclusive Education	3
IEC 291	IECE Practicum/Cooperative Education	3
<b>Total Credits</b>		<b>33</b>

## Kentucky Child Care Provider - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1907093049

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
<b>Required</b>		
IEC 101	Orientation to Early Childhood Education	3
<b>Total Credits</b>		<b>3</b>

## School Age Child Care - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1907093069

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
IEC 101	Orientation to Early Childhood Education	3
IEC 102	Foundations of Early Childhood Education	3
IEC 130	Early Childhood Development	3
IEC 200	Child Guidance	3
IEC 250	School Age Child Care	3
<b>Total Credits</b>		<b>15</b>

## Logistics and Operations Management

The Logistics and Operations Management program is designed to teach students about the sourcing, procurement, conversion, and logistics concepts associated with the production and delivery of goods and services.

## Degrees

- Logistics and Operations Management - AAS (p. 275)

## Certificates

- International Logistics - Certificate (p. 275)
- Logistics Management - Certificate (p. 275)
- Logistics Technology - Certificate (p. 275)
- Supply Chain Management - Certificate (p. 276)

## Logistics and Operations Management - AAS

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 5202037019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education Courses</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher General Education Quantitative Reasoning course		
Natural Sciences		3
Social/Behavioral Sciences (Must be a different course from the ECO course selected in the Technical or Support Courses)		3
Heritage/Humanities		3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
Subtotal		18
<b>Technical or Support Courses</b>		
ACC 201	Financial Accounting	3
ACC 202	Managerial Accounting	3
BAS 160	Introduction to Business	3
BAS 256	International Business	3
BAS 282	Principles of Marketing	3
BAS 283	Principles of Management	3
or BAS 287	Supervisory Management	
BAS 289	Operations Management	3
TEC 200	Technical Communications	3
or ENG 102	Writing II	
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
LOM 102	Supply Chain Management	3
LOM 180	Project Management	3
or LOM 210	Lean for Logistics	
LOM 202	Applied Supply Chain Management	3
Select one of the following four options:		3
ECO 101	Contemporary Economic Issues	
ECO 150	Introduction to Global Economics	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Electives (May include BAS, QMS, STA or Business and Industry approved courses.)		1-3

Subtotal	43-48
<b>Total Credits</b>	<b>61-66</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing an approved digital literacy course.

## International Logistics - Certificate

**Offered at:** Maysville Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5202033049

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
BAS 160	Introduction to Business	3
BAS 256	International Business	3
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
LOM 102	Supply Chain Management	3
<b>Total Credits</b>		<b>15</b>

## Logistics Management - Certificate

**Offered at:** Maysville Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5202033019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
LOM 102	Supply Chain Management	3
BAS 287	Supervisory Management	3
TEC 200	Technical Communications	3
or ENG 101	Writing I	
<b>Total Credits</b>		<b>15-18</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing an approved digital literacy course.

## Logistics Technology - Certificate

**Offered at:** Maysville Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5202033039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
LOM 102	Supply Chain Management	3
LOM 180 or LOM 210	Project Management Lean for Logistics	3
<b>Total Credits</b>		<b>12-15</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing an approved digital literacy course.

## Supply Chain Management - Certificate

**Offered at:** Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5202033029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
BAS 160	Introduction to Business	3
BAS 289	Operations Management	3
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
LOM 102	Supply Chain Management	3
LOM 202	Applied Supply Chain Management	3
<b>Total Credits</b>		<b>18</b>

## Manufacturing Engineering Technology

The Manufacturing Engineering Technology degree offers students the opportunity to build a career in advanced manufacturing. It is focused on producing graduates to work as engineering technicians and first-line supervisors in manufacturing firms. The degree provides a broad foundation across many facets of operations management and manufacturing technologies. Graduates will be able to assist in leading projects across multiple disciplines in advanced manufacturing firms. They will possess an understanding of manufacturing operations and possess the interpersonal skills to lead work groups. They will be able to work in almost any manufacturing setting from discrete manufacturing to continuous flow and assembly line operations.

## Degrees

- Manufacturing Engineering Technology - AAS (p. 276)

## Certificates

- Enhanced Operator I - Certificate (p. 277)
- Enhanced Operator II - Certificate (p. 277)
- Fundamentals of Mechatronics - Certificate (p. 277)
- Integrated Manufacturing Technologies - Certificate (p. 277)

- Operations Management - Certificate (Manufacturing Engineering Technology) (p. 277)
- Quality Control - Certificate (p. 277)

## Manufacturing Engineering Technology - AAS

**Offered at:** Gateway Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1506137029

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Choose one of the following 3 options:		6-11
MAT 150 & STA 220	College Algebra and Statistics	
MAT 161 & MAT 155 & STA 251	Statistics and Algebra and Trigonometry and Applied Statistics	
MAT 171 & MAT 151 & STA 251	Precalculus and Introduction to Applied Statistics and Applied Statistics	
PSY 110 or SOC 101	General Psychology Introduction to Sociology	3
Natural Science		3
Heritage or Humanities		
Subtotal		15-20
<b>Technical Core</b>		
Digital Literacy Course or demonstrated competency		0-3
BAS 160	Introduction to Business	3
MFG 175	Lean Operations	2
ELT 103	Introduction to Engineering	3
ELT 110	Circuits I	5
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
BAS 289 or MFG 256	Operations Management Production Management	3
MFG 135	Fundamentals of Mechatronics	6
QMS 101	Introduction to Quality Systems	3
MFG 295	Manufacturing Engineering Technology Capstone	1
Subtotal		31-34
<b>Technical Electives</b>		
Select a minimum of Eleven credit hours from the approved technical list below.		11
<b>Total Credits</b>		<b>57-65</b>

## Approved Technical Electives

Course	Title	Credits
A minimum of eleven (11) credit hours must be taken from the approved technical electives list. Other courses may be taken with the approval of the program coordinator		
BAS 287 or BAS 288	Supervisory Management Personal and Organizational Leadership	3

CMM 110 & CMM 112 or CMM 114	Fundamentals of Machine Tools - A and Fundamentals of Machine Tools - B Fundamentals of Machine Tools	6
CMM 118	Metrology/Control Charts	2
CMM 130	Manual Programming	3
CMM 132	CAD/CAM/CNC	3
COM 181 or COM 252	Basic Public Speaking Introduction to Interpersonal Communication	3
EET 270	Electrical Motor Controls I	2
IMT 1384	Problem Solving	1
EET 271	Electrical Motor Controls I Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
ELT 260	Robotic and Industrial Automation	5
ELT 201	Statics and Strength of Materials	4
QMS 220	Quality Audits	3

## Enhanced Operator I - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College

**Program Plan Number:** 1506133129

Course	Title	Credits
WPP 2001	Soft Skills	1
ISX 1001	Safety & Universal Precaution	1
MFG 175	Lean Operations	2
IET 200	General Tools	1
IMT 1384	Problem Solving	1
<b>Total Credits</b>		<b>6</b>

## Enhanced Operator II - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Owensboro Community and Technical College

**Program Plan Number:** 1506133139

Course	Title	Credits
BRX 120 or ELT 103	Basic Blueprint Reading Introduction to Engineering	3
QMS 101	Introduction to Quality Systems	3
CMM 118	Metrology/Control Charts	2
<b>Total Credits</b>		<b>8</b>

## Fundamentals of Mechatronics - Certificate

**Offered at:** Big Sandy Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1500003219

Course	Title	Credits
Select one of the following two options:		6
MFG 135	Fundamentals of Mechatronics	
MFG 125 & MFG 130	Fundamentals of Mechatronics A and Fundamentals of Mechatronics B	
<b>Total Credits</b>		<b>6</b>

## Integrated Manufacturing Technologies - Certificate

**Offered at:** Gateway Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1506133069

Course	Title	Credits
FPX 100	Fluid Power	3
FPX 101	Fluid Power Lab	2
ELT 110	Circuits I	5
EET 270	Electrical Motor Controls I	2
EET 271	Electrical Motor Controls I Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers Lab	2
<b>Total Credits</b>		<b>18</b>

## Operations Management - Certificate (Manufacturing Engineering Technology)

**Offered at:** Big Sandy Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1506133149

Course	Title	Credits
<b>General Education</b>		
COM 181 or COM 252	Basic Public Speaking Introduction to Interpersonal Communication	3
<b>Core</b>		
BAS 160	Introduction to Business	3
Select one of the following three options:		3
BAS 287	Supervisory Management	
BAS 288	Personal and Organizational Leadership	
QMS 101	Introduction to Quality Systems	
BAS 289 or MFG 256	Operations Management Production Management	3
<b>Total Credits</b>		<b>12</b>

## Quality Control - Certificate

**Offered at:** Gateway Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 1506133049

Course	Title	Credits
<b>General Education</b>		
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
Select one of the following three options:		3-5
MAT 150	College Algebra	
MAT 161	Statistics and Algebra	
MAT 171	Precalculus	
<b>Core</b>		
ELT 103	Introduction to Engineering	3
CMM 118	Metrology/Control Charts	2-3
or QMS 220	Quality Audits	
QMS 101	Introduction to Quality Systems	3
STA 220	Statistics	3
or STA 251	Applied Statistics	
<b>Total Credits</b>		<b>17-20</b>

## Marine Technology

The Marine Technology curriculum is designed to provide a strong theoretical base for employees of the inland marine industry. The program introduces students to basic inland marine principles and concepts by applying contemporary skills in a variety of employment positions based on industry needs. It provides students with a strong foundation of managerial and operational knowledge by using a problem-solving approach in state-of-the-art classroom and work experience environments. It builds leadership, management, communication skills, and professional ethics, which serve as a foundation for future development and career success. The program contains core technical courses and advanced courses in each track to address the employment needs of the domestic market.

## Degrees

- Marine Technology - AAS (p. 278)
  - Marine Culinary Management Track (p. 278)
  - Marine Engineering Track (p. 278)
  - Marine Logistics Operations Track (p. 279)
  - Wheelhouse Management Track (p. 279)

## Certificates

- Marine Culinary - Certificate (p. 279)
- Marine Engineering - Certificate (p. 279)
- Marine Industry - Certificate (p. 279)
- Marine Technology Business - Certificate (p. 279)

## Marine Technology - AAS

**Offered at:** West Kentucky Community and Technical College**Program Plan Number:** 4903997019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 116	Technical Mathematics	
Higher Level Quantitative Reasoning Course		
GEN 140	Development of Leadership	3
Natural Sciences		3
Heritage/Humanities		3
Subtotal		15
<b>Technical Core (required for all tracks)</b>		
Digital Literacy Course or demonstrated competency		0-3
BAS 160	Introduction to Business	3
MRN 100	Intro to Marine Technology	3
MRN 101	Anatomy of a Towboat	3
MRN 102	Basic Marine Safety	3
MRN 103	Applied Marine Weather	3
MRN 104	Marine Crew Wellness	3
MRN 203	Environmental Protection Rules	3
HSM 100	Introduction to Homeland Security	3
HSM 110	Introduction to Emergency Management	3
Subtotal		27-30
General Education and Technical Core Subtotal		42-45

*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Marine Culinary Management Track

**Offered at:** West Kentucky Community and Technical College**Program Plan Number:** 490399705

Course	Title	Credits
General Education and Technical Core Subtotal		42-45
BAS 120	Personal Finance	3
BAS 283	Principles of Management	3
CUL 100	Introduction to Culinary Arts	2
CUL 125	Sanitation and Safety	2
CUL 230	Basic Nutrition	3
CUL 280	Cost and Control	3
MRN 208	Inland River Systems	3
<b>Total Credits</b>		<b>61-64</b>

## Marine Engineering Track

**Offered at:** West Kentucky Community and Technical College**Program Plan Number:** 490399702

Course	Title	Credits
General Education and Technical Core Subtotal		42-45
MRN 204	Marine Electrical Systems	5
MRN 206	Marine Diesel	5
MRN 212	Marine Fluid Systems	5



MRN 214	Marine Refrigeration Systems	4
<b>Total Credits</b>		<b>61-64</b>

## Marine Logistics Operations Track

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 490399703

Course	Title	Credits
General Education and Technical Core Subtotal		42-45
BAS 120	Personal Finance	3
BAS 283	Principles of Management	3
BAS 289	Operations Management	3
MRN 208	Inland River Systems	3
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
<b>Total Credits</b>		<b>60-63</b>

## Wheelhouse Management Track

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 490399701

Course	Title	Credits
General Education and Technical Core Subtotal		42-45
BAS 120	Personal Finance	3
BAS 283	Principles of Management	3
BAS 287	Supervisory Management	3
MRN 200	Shipboard Deck Operations	3
MRN 201	Rules of the Road	3
MRN 202	Piloting and Navigation	3
<b>Total Credits</b>		<b>60-63</b>

## Marine Culinary - Certificate

**Offered at:** Ashland Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4903993039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Digital Literacy Course or demonstrated competency		0-3
CUL 100	Introduction to Culinary Arts	2
CUL 125	Sanitation and Safety	2
CUL 230	Basic Nutrition	3
CUL 280	Cost and Control	3
MRN 100	Intro to Marine Technology	3
MRN 208	Inland River Systems	3
<b>Total Credits</b>		<b>16-19</b>

## Marine Engineering - Certificate

**Offered at:** Ashland Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4903993049

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
MRN 203	Environmental Protection Rules	3
MRN 204	Marine Electrical Systems	5
MRN 206	Marine Diesel	5
MRN 212	Marine Fluid Systems	5
MRN 214	Marine Refrigeration Systems	4
<b>Total Credits</b>		<b>22</b>

## Marine Industry - Certificate

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 4903993029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Digital Literacy Course or demonstrated competency		0-3
MRN 100	Intro to Marine Technology	3
MRN 101	Anatomy of a Towboat	3
MRN 102	Basic Marine Safety	3
MRN 103	Applied Marine Weather	3
MRN 104	Marine Crew Wellness	3
MRN 203	Environmental Protection Rules	3
<b>Total Credits</b>		<b>18-21</b>

## Marine Technology Business - Certificate

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 4903993019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Digital Literacy Course or demonstrated competency		0-3
BAS 120	Personal Finance	3
BAS 160	Introduction to Business	3
BAS 283	Principles of Management	3
BAS 289	Operations Management	3
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
<b>Total Credits</b>		<b>18-21</b>

## Masonry

The Masonry program prepares students for employment in the construction of houses, commercial structures and other projects involving brick, stone and other masonry materials. This program includes blueprint reading, introductory, intermediate and advanced

masonry projects. Cost estimating, preparing materials lists, and practical experiences are included.

Progression in the Masonry program is contingent upon achievement of a grade of “C” or better in each technical course and maintenance of a 2.0 cumulative grade point average.

Diplomas

- Construction Mason - Diploma (p. 280)

Certificates

- Bricklayer Helper - Certificate (p. 280)
- Bricklayer Trainee - Certificate (p. 280)
- Construction Bricklayer - Certificate (p. 280)
- Stone Mason - Certificate (p. 281)

Construction Mason - Diploma

Offered at: Big Sandy Community and Technical College

Program Plan Number: 4601014019

Progression in the Masonry program is contingent upon achievement of a grade of “C” or better in each technical course and maintenance of a 2.0 cumulative grade point average.

Course	Title	Credits
General Education		
Area 1		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Heritage/Humanities		
Area 2		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
Technical Courses		
Digital Literacy course or demonstrated competency		0-3
BRX 220	Blueprint Reading for Construction	3
ISX 100	Industrial Safety	3
or ISX 101	Introduction to Industrial Safety	
MSY 105	Introductory Masonry	3
MSY 115	Intermediate Masonry	3
MSY 199	Cooperative Education I	3
or MSY 198	Practicum I	
MSY 205	Advanced Masonry	3
MSY 215	Masonry Lab	3
MSY 225	Brick Construction	3
MSY 235	Special Techniques in Brick Construction	3
MSY 245	Anchors and Reinforcement	3
MSY 275	Fireplace Construction	3
MSY 299	Cooperative Education II	3
or MSY 298	Practicum II	

Technical Electives	6
Subtotal	42-45
Total Credits	48-51

Technical Electives

Course	Title	Credits
Technical Electives		
Select two of the following:		6
MSY 251	Concrete Finishing	3
MSY 253	Masonry Floors and Steps	3
MSY 255	Glass Blocks and Tile	3
MSY 257	Stone	3
Electives (Optional)		
MSY 291	Masonry Applications	3

Bricklayer Helper - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 4601013029

Course	Title	Credits
ISX 100	Industrial Safety	3
or ISX 101	Introduction to Industrial Safety	
MSY 105	Introductory Masonry	3
MSY 215	Masonry Lab	3
MSY 291	Masonry Applications	3
Total Credits		12

Bricklayer Trainee - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 4601013019

Course	Title	Credits
ISX 100	Industrial Safety	3
or ISX 101	Introduction to Industrial Safety	
MSY 105	Introductory Masonry	3
MSY 115	Intermediate Masonry	3
MSY 199	Cooperative Education I	3
or MSY 198	Practicum I	
MSY 205	Advanced Masonry	3
MSY 215	Masonry Lab	3
MSY 225	Brick Construction	3
MSY 235	Special Techniques in Brick Construction	3
MSY 245	Anchors and Reinforcement	3
Total Credits		27

Construction Bricklayer - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 4601013039

Course Required	Title	Credits
BRX 220	Blueprint Reading for Construction	3
ISX 100 or ISX 101	Industrial Safety Introduction to Industrial Safety	3
MSY 105	Introductory Masonry	3
MSY 115	Intermediate Masonry	3
MSY 199 or MSY 198	Cooperative Education I Practicum I	3
MSY 205	Advanced Masonry	3
MSY 215	Masonry Lab	3
MSY 225	Brick Construction	3
MSY 235	Special Techniques in Brick Construction	3
MSY 245	Anchors and Reinforcement	3
MSY 275	Fireplace Construction	3
MSY 299 or MSY 298	Cooperative Education II Practicum II	3
<b>Electives (Optional)</b>		
MSY 291	Masonry Applications	
<b>Total Credits</b>		<b>36</b>

## Stone Mason - Certificate

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 4601013049

Course	Title	Credits
BRX 220	Blueprint Reading for Construction	3
MSY 105	Introductory Masonry	3
MSY 115	Intermediate Masonry	3
MSY 205	Advanced Masonry	3
MSY 215	Masonry Lab	3
MSY 245	Anchors and Reinforcement	3
MSY 253	Masonry Floors and Steps	3
MSY 257	Stone	3
MSY 275	Fireplace Construction	3
<b>Total Credits</b>		<b>27</b>

## Massage Therapy Technology

The Massage Therapy Technology degree offers a flexible, innovative curriculum designed to meet the changing needs of the health care marketplace with relation to Massage Therapy. The program will educate students in the principles of integrative massage modalities and the promotion of health and well-being. The program will provide students with the skills and knowledge necessary to work in a variety of settings, including but not limited to hospitals, massage clinics, rehabilitation clinics, spas, behavioral health clinics, wellness/fitness centers, doctor's offices, private practice offices, and athletic programs at the high school, college, or professional level.

The Massage Therapy Certificate Program equips students with the knowledge and training to become Licensed Massage Therapists. Education begins with entry-level skills, focusing on the therapeutic and relaxation benefits of massage, and progresses through advanced massage techniques, aiding in recovery and rehabilitation from illness,

injury, and surgery. Students will acquire foundational knowledge in Anatomy and Physiology, Kinesiology and Medical Terminology. Various modalities, professional ethics, and principles of business are embedded within the curriculum. Inclusion of a student clinic provides practical experience, solidifying program outcomes in a tangible manner. Graduates of the program are provided with the needed skill sets to become qualified and competent practitioners in the field of Massage Therapy.

## Degree

- Massage Therapy Technology - AAS (p. 281)

## Certificate

- Massage Therapy - Certificate (p. 282)

## Massage Therapy Technology - AAS

**Offered at:** Gateway Community and Technical College

**Program Plan Number:** 5135017019

Course	Title	Credits
<i>General Education Requirements</i>		
ENG 101	Writing I	3
ENG 102	Writing II	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher Level Quantitative Reasoning Course		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
PHI 110	Medical Ethics	3
PSY 110	General Psychology	3
Oral Communication		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Subtotal		28-32
<i>Technical Core Requirements</i>		
Digital Literacy course or demonstrated competency <sup>1</sup>		0-3
AHS 115	Medical Terminology	3
CPR 100	CPR for Healthcare Professionals	1
BAS 200 or BAS 288	Small Business Management Personal and Organizational Leadership	3
MSG 100	Musculoskeletal Anatomy & Physiology I	4
MSG 110	Musculoskeletal Anatomy and Physiology II	4
Select one of the following two options:		3
MSG 125	Medical Massage Techniques I with Lab	
MSG 126 & MSG 127	Medical Massage Techniques I and Medical Massage Lab I	
Select one of the following two options:		3
MSG 135	Medical Massage Techniques II with Lab	
MSG 136 & MSG 137	Medical Massage Techniques II and Medical Massage Lab II	

MSG 220	Massage Therapy Pathology	3
MSG 232	Advanced Clinical Massage I	3
MSG 234	Advanced Clinical Massage II	3
Select one of the following two options:		2-3
MSG 215	Massage Therapy Student Clinic	
MSG 286	Massage Therapy Student Clinic	
Subtotal		32-36
<b>Total Credits</b>		<b>60-68</b>

<sup>1</sup> Digital Literacy Courses - 3 credit hours or demonstrated competency - 0 credit hours.

## Massage Therapy - Certificate

**Offered at:** Gateway Community and Technical College, Hopkinsville Community College

**Program Plan Number:** 5135013019

Course	Title	Credits
AHS 115	Medical Terminology	3
CPR 100	CPR for Healthcare Professionals	1
MSG 100	Musculoskeletal Anatomy & Physiology I	4
MSG 110	Musculoskeletal Anatomy and Physiology II	4
Select one of the following two options:		3
MSG 125	Medical Massage Techniques I with Lab	
MSG 126	Medical Massage Techniques I	
& MSG 127	and Medical Massage Lab I	
Select one of the following two options:		3
MSG 135	Medical Massage Techniques II with Lab	
MSG 136	Medical Massage Techniques II	
& MSG 137	and Medical Massage Lab II	
MSG 220	Massage Therapy Pathology	3
MSG 232	Advanced Clinical Massage I	3
MSG 234	Advanced Clinical Massage II	3
Select one of the following two options:		2-3
MSG 215	Massage Therapy Student Clinic	
MSG 286	Massage Therapy Student Clinic	
<b>Total Credits</b>		<b>29-30</b>

## Mechatronic Systems

A Mechatronic Systems Operating Technician will function as a well-grounded machine operator in a complex system, with responsibility for efficient operation of the equipment with minimal down-times.

### Certificates

- Mechatronic Systems Operating Technician - Certificate (p. 282)

## Mechatronic Systems Operating Technician - Certificate

**Offered at:** Jefferson Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 1504033119

Course	Title	Credits
MES 110	Mechatronic Systems Electrical Components	4
MES 120	Mechatronic Systems Mechanical Components	4
MES 130	Mechatronic Systems Hydraulic / Pneumatic Components	4
MES 150	Mechatronic Systems Programmable Logic Controllers	4
<b>Total Credits</b>		<b>16</b>

## Medical Administrative Services

The Medical Coding and Reimbursement Specialist program insures that medical services are correctly identified on insurance claim forms. The individual codes the diagnoses and procedures performed, submits claim forms, researches and corrects insurance claim rejections. This program prepares graduates to file insurance forms for reimbursement and to code properly using the ICD, CPT and the HCPCS codes for patient diagnoses and procedures. Students are provided with an in-depth knowledge of medical terminology, anatomy, and coding procedures.

### Certificates

- Medical Coding and Reimbursement Specialist - Certificate (p. 282)

## Medical Coding and Reimbursement Specialist - Certificate

**Offered at:** Jefferson Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 5107133029

Course	Title	Credits
Select one of the following four options:		3-8
AHS 109	Introduction to Body Structure and Functions	
BIO 130	Aspects of Human Biology	
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137	Human Anatomy and Physiology I with Laboratory	
& BIO 139	and Human Anatomy and Physiology II with Laboratory	
Select one of the following three options:		3
AHS 115	Medical Terminology	
CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
Digital Literacy		3
MBS 100	Introduction to the Health Care Field	2
or HIT 100	Introduction to Health Information Technology	
MBS 110	Medical Insurance and Claims Processing	6
Select one of the following two options:		6-8
MBS 120	Coding for Reimbursement	
MIT 204	Medical Coding	
& MIT 205	and Advanced Medical Coding	
MBS 199	Internship	0-8
<b>Total Credits</b>		<b>23-38</b>

## Medical Assisting

A medical assistant is an integral member of the health care delivery team, qualified by education and experience to work in the administrative office, the examining room and the physician's laboratory. Individuals in this unique position will be involved in many of the following skills:

**General:** project a professional manner and image, adhere to legal and ethical principles, use medical terminology effectively, and use effective and correct verbal and written communication.

**Administrative:** schedule, coordinate and monitor appointments, perform telephone and written communications, arrange hospital admissions, manage medical records, process insurance claim forms, manage office financial records, and maintain inventory.

**Clinical:** prepare patient for examination procedures and treatment, record medical histories, take vital signs, chart patient information, administer medications and injections, provide patient instruction and education, perform venipunctures, collect and prepare other specimens, perform electrocardiograms (ECG), sterilize instruments, and perform basic laboratory tests.

With additional education, the medical assisting graduate may perform limited radiography.

The Medical Assistant is a vital liaison between the doctor and patient and plays an important role in diagnosis and treatment. The many different roles assumed in this profession assure a fast moving and challenging career.

Progression in the Medical Assisting program is contingent upon achievement of a grade of "C" or above in each required course and maintenance of a 2.0 cumulative grade-point average or above (on a 4.0 scale).

Clinical orientation and externship are "non-paid work assignments." CPR requirements must be successfully completed prior to enrolling in the first clinical externship and must be kept current throughout the program.

Transportation to the physician's offices/community agencies is the responsibility of each student.

According to the Commission on Accreditation of Allied Health Education Programs (CAAHEP), all accredited medical assisting program related courses must be taught by approved faculty and meet the requirements according to CAAHEP standards and guidelines.

The Medical Assisting programs at the colleges listed below are accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) on the recommendation of the Medical Assisting Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs  
9355-113th Street North #7709  
Seminole, Florida 33755

727/210-2350

[www.caahep.org](http://www.caahep.org) (<http://www.caahep.org>)

- Bluegrass CTC (Diploma),
- Henderson CC (AAS),

- Jefferson CTC (Diploma), and
- Maysville CTC - Maysville & Rowan Campuses (Diploma).

## Degrees

- Medical Assisting - AAS (p. 283)
  - Pathway 1 (p. 284)
  - Pathway 2 (p. 284)

## Diplomas

- Medical Assisting - Diploma (p. 284)

## Certificates

- Electrocardiograph Technician - Certificate (p. 285)
- Medical Assisting - Certificate (p. 285)
- Medical Office Administrative Assistant - Certificate (p. 286)
- Medical Office Insurance Billing and Coding - Certificate (p. 286)
- Medical Office Limited Radiography - Certificate (p. 286)
- Phlebotomist - Certificate (p. 286)

## Medical Assisting - AAS

**Offered at:** Bluegrass Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5108017129

Progression in the Medical Assisting program is contingent upon achievement of a grade of "C" or above in each required course and maintenance of a 2.0 cumulative grade-point average or above (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
Select one of the following three options:		3
MAT 105	Business Mathematics	
MAT 110	Applied Mathematics	
Higher Level Quantitative Reasoning Course		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
PSY 110	General Psychology	3
ENG 101	Writing I	3
Heritage/Humanities		3
Subtotal		16-20
<b>Additional Suggested General Education Courses (Not Required)</b>		
ENG 102	Writing II	
COM 252	Introduction to Interpersonal Communication	
COM 181	Basic Public Speaking	
<b>Support Courses</b>		
AHS 115	Medical Terminology	3
or CLA 131	Medical Terminology from Greek and Latin	
or MIT 103	Medical Office Terminology	



CPR 100	CPR for Healthcare Professionals <sup>1</sup>	1
or KHP 190	First Aid and Emergency Care	
Digital Literacy		3
Subtotal		23-28
<i>Students must complete one of the pathways listed below to complete the AAS requirements.</i>		

Pathway 1

**Offered at:** Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 510801711

Course	Title	Credits
<b>Required</b>		
General Education and Support Courses		23-28
<b>Core Courses</b>		
MAI 105	Introduction to Medical Assisting	3
MAI 125	Medical Assisting Laboratory Techniques I	2
MAI 140	Medical Assisting Clinical Procedures I	4
MAI 155	Administrative Procedures for the Medical Assistant	4
MAI 170	Dosage Calculations	2
MAI 200	Pathophysiology for the Medical Assistant	3
MAI 220	Medical Assisting Laboratory Techniques II	3
MAI 240	Medical Assisting Clinical Procedures II	4
MAI 270	Pharmacology for the Medical Assistant	3
MAI 281	Medical Assisting Practicum	1
MAI 284	Medical Assisting Externship	2-3
MAI 289	Medical Assisting Assessment Preparation	1-2
Approved Electives		5
<b>Total Credits</b>		<b>60-67</b>

Pathway 1 - Approved Elective List

Course	Title	Credits
BAS 288	Personal and Organizational Leadership	3
MAI 299	Selected Topics: Medical Assisting: (Topic)	1-4
MIT 104	Medical Insurance	3
MIT 205	Advanced Medical Coding	3
MIT 240	Medical Interpreter-Lecture	3
MIT 241	Medical Interpreter-Laboratory	1
NFS 101	Human Nutrition and Wellness	3
PHB 100	Phlebotomy	6
PHB 155	Phlebotomy Clinical	2-3
OST 100	Keyboarding	1
OST 110	Word Processing Applications	3

Pathway 2

**Offered at:** Gateway Community and Technical College

**Program Plan Number:** 510801713

Course	Title	Credits
<b>Required</b>		
General Education and Support Courses		23-28
<b>Core Courses</b>		
MAI 105	Introduction to Medical Assisting	3
MAI 155	Administrative Procedures for the Medical Assistant	4
MAI 162	Medical Assisting Laboratory & Clinical Procedures I	6
MAI 200	Pathophysiology for the Medical Assistant	3
MAI 262	Medical Assisting Laboratory & Clinical Procedures II	6
MAI 265	Applied Pharmacology for the Medical Assistant	4
MAI 281	Medical Assisting Practicum	1
MAI 284	Medical Assisting Externship	2-3
MAI 289	Medical Assisting Assessment Preparation	1-2
Approved Electives		7
<b>Total Credits</b>		<b>60-67</b>

Pathway 2 - Approved Elective List

Course	Title	Credits
BAS 288	Personal and Organizational Leadership	3
MAI 299	Selected Topics: Medical Assisting: (Topic)	1-4
MIT 104	Medical Insurance	3
MIT 205	Advanced Medical Coding	3
MIT 240	Medical Interpreter-Lecture	3
MIT 241	Medical Interpreter-Laboratory	1
NFS 101	Human Nutrition and Wellness	3
PHB 100	Phlebotomy	6
PHB 152	Phlebotomy: Clinical Experience	1
PHB 155	Phlebotomy Clinical	2-3

Course(s) approved Course by Medical Assisting Program Coordinator

<sup>1</sup> With proof of CPR certification for Health Care Professionals, credit may be granted for CPR 100 CPR for Healthcare Professionals (1 credit hours)

Medical Assisting - Diploma

**Offered at:** Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5108014020

Course	Title	Credits
<b>General Education</b>		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	

ENG 101	Writing I	3
or TEC 200	Technical Communications	
<b>Subtotal</b>		<b>7-11</b>
<b>Support Courses</b>		
AHS 115	Medical Terminology	3
or CLA 131	Medical Terminology from Greek and Latin	
or MIT 103	Medical Office Terminology	
CPR 100	CPR for Healthcare Professionals <sup>1</sup>	1-2
or KHP 190	First Aid and Emergency Care	
Digital Literacy		3
<b>Subtotal</b>		<b>7-8</b>
<b>Core Courses</b>		
MAI 105	Introduction to Medical Assisting	3
MAI 125	Medical Assisting Laboratory Techniques I	2
MAI 140	Medical Assisting Clinical Procedures I	4
MAI 155	Administrative Procedures for the Medical Assistant	4
MAI 170	Dosage Calculations	2
MAI 200	Pathophysiology for the Medical Assistant	3
MAI 220	Medical Assisting Laboratory Techniques II	3
MAI 240	Medical Assisting Clinical Procedures II	4
MAI 270	Pharmacology for the Medical Assistant	3
MAI 281	Medical Assisting Practicum	1
MAI 284	Medical Assisting Externship	2-3
MAI 289	Medical Assisting Assessment Preparation	1-2
<b>Subtotal</b>		<b>32-34</b>
<b>Total Credits</b>		<b>46-53</b>

<sup>1</sup> Credit for CPR 100 CPR for Healthcare Professionals (1 credit hours) may be granted with proof of CPR certification for Health Care Professionals.

## Elective Courses

Course	Title	Credits
OST 100	Keyboarding	1
MAI 299	Selected Topics: Medical Assisting: (Topic)	1-4

## Electrocardiograph Technician - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College

**Program Plan Number:** 5108013189

Course	Title	Credits
AHS 115	Medical Terminology	3
or CLA 131	Medical Terminology from Greek and Latin	
or MIT 103	Medical Office Terminology	
Select one of the following three options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	

BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
CPR 100	CPR for Healthcare Professionals <sup>1</sup>	1-2
or KHP 190	First Aid and Emergency Care	
MAI 140	Medical Assisting Clinical Procedures I	4
MAI 240	Medical Assisting Clinical Procedures II	4
MAI 281	Medical Assisting Practicum	1
<b>Total Credits</b>		<b>17-22</b>

<sup>1</sup> Credit for CPR 100 CPR for Healthcare Professionals (1 credit hours) may be granted with proof of CPR certification for Health Care Professionals.

## Medical Assisting - Certificate

**Offered at:** Gateway Community and Technical College, Hazard Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5108013199

Course	Title	Credits
<b>Required General Education</b>		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
<b>Subtotal</b>		<b>4-8</b>
<b>Support Courses</b>		
AHS 115	Medical Terminology	3
CPR 100	CPR for Healthcare Professionals <sup>1</sup>	1
<b>Subtotal</b>		<b>4</b>
<b>Core Courses</b>		
MAI 105	Introduction to Medical Assisting	3
MAI 155	Administrative Procedures for the Medical Assistant	4
MAI 162	Medical Assisting Laboratory & Clinical Procedures I	6
MAI 200	Pathophysiology for the Medical Assistant	3
MAI 262	Medical Assisting Laboratory & Clinical Procedures II	6
MAI 265	Applied Pharmacology for the Medical Assistant	4
MAI 281	Medical Assisting Practicum	1
MAI 284	Medical Assisting Externship	2-3
MAI 289	Medical Assisting Assessment Preparation	1-2
<b>Total Credits</b>		<b>38-44</b>

<sup>1</sup> With proof of CPR certification for Health Care Professionals, credit may be granted for CPR 100 CPR for Healthcare Professionals (1 credit hours)

## Medical Office Administrative Assistant - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5108013019

Course	Title	Credits
AHS 115 or CLA 131 or MIT 103	Medical Terminology Medical Terminology from Greek and Latin Medical Office Terminology	3
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
MAI 105	Introduction to Medical Assisting	3
MAI 155	Administrative Procedures for the Medical Assistant	4
MAI 281	Medical Assisting Practicum	1
<b>Total Credits</b>		<b>15-19</b>

## Medical Office Insurance Billing and Coding - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5108013209

Course	Title	Credits
AHS 115 or CLA 131 or MIT 103	Medical Terminology Medical Terminology from Greek and Latin Medical Office Terminology	3
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
MAI 155	Administrative Procedures for the Medical Assistant	4
MAI 281	Medical Assisting Practicum	1
<b>Total Credits</b>		<b>12-16</b>

## Medical Office Limited Radiography - Certificate

**Offered at:** Jefferson Community and Technical College, Somerset Community College

**Program Plan Number:** 5108013139

Course	Title	Credits
MOR 100	Medical Office Limited Radiography	6
MOR 115	Medical Office Limited Radiography Clinical	3
MOR 117	Advanced Medical Office Radiography	6
MOR 119	Advanced Medical Office Limited Radiography Clinical	3
<b>Total Credits</b>		<b>18</b>

## Phlebotomist - Certificate

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Gateway Community and Technical College, Henderson Community College, Hopkinsville Community College, Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5108013109

Course	Title	Credits
Select one of the following three options:		4-9
PHB 100 & PHB 155	Phlebotomy and Phlebotomy Clinical	
MAI 120 & PHB 155	Medical Assisting Laboratory Techniques I and Phlebotomy Clinical	
MAI 120 & PHB 152	Medical Assisting Laboratory Techniques I and Phlebotomy: Clinical Experience	
<b>Total Credits</b>		<b>4-9</b>

A competency level of successful completion of MAT 65 Basic Algebra (3 credit hours), RDG 30 Reading for the College Classroom (3 credit hours) and ENC 91 Foundations of College Writing II (3 credit hours) must be attained for any certificate; except for the Phlebotomist certificate, a competency level of successful completion of RDG 30 Reading for the College Classroom (3 credit hours) must be attained.

## Medical Information Technology

Medical Information Technology graduates prepare medical records and reports, maintain paper and electronic files, order supplies, perform accounting procedures, work with medical insurance and coding, and receive patients in a variety of health care settings. Some of the degree tracks include Medical Administrative Assistant, Medical Insurance Coder, and Electronic Medical Records. Students enrolled in the degree or diploma programs are required to do an internship or capstone course.

Progression in the Medical Information Technology program contingent upon achievement of a grade of "C" or better in all required general education and technical courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Medical Information Technology program does not accept non-general education courses older than 5 years from returning or transfer students without the consent from the program coordinator.

## Degrees

- Medical Information Technology - AAS (p. 287)
  - Medical Administrative Track (p. 287)
  - Medical Coding Track (p. 288)
  - Medical Office Management Track (p. 288)
  - Medical Transcription Track (p. 288)

## Diplomas

- Medical Administrative Assistant - Diploma (p. 288)
- Medical Records Specialist - Diploma (p. 289)

## Certificates

- Electronic Health Records Specialist - Certificate (p. 289)
- Hospital Admissions Specialist - Certificate (p. 290)
- Medical Coding - Certificate (p. 290)
- Medical Interpreter - Certificate (p. 290)
- Medical Receptionist - Certificate (p. 290)
- Medical Transcription/Scribe - Certificate (p. 291)
- Medical Transcriptionist - Certificate (p. 291)
- Medical Unit Coordinator - Certificate (p. 291)

## Medical Information Technology - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107167019

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Progression in the Medical Information Technology program contingent upon achievement of a grade of "C" or better in all required general education and technical courses and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
Select one of the following two options:		3
MAT 105	Business Mathematics	
Higher Level Mathematics Course		
ENG 101	Writing I	3
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
Heritage/Humanities		3

Social/Behavioral Sciences		3
Subtotal		16
<b>Technical Core</b>		
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
OST 110	Word Processing Applications	3
MIT 230	Medical Information Management	3
OST 240	Advanced Microsoft Applications	3
or CIT 130	Productivity Software	
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 104	Medical Insurance	3
MIT 217	Medical Office Procedures	3
MIT 224	Medical Practice Management	3
MIT 228	Electronic Medical Records	3
MIT 250	Legal Issues in Medical Information Management	3
MIT 295	Medical Information Technology Capstone	3
Subtotal		33
General Education and Technical Core Subtotal		49
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

## Medical Administrative Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510716705

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
General Education and Technical Core Subtotal		49
ACT 101	Fundamentals of Accounting I	3
or ACC 201	Financial Accounting	
MIT 227	Medical Office Software	3
OST 235	Business Communications Technology	3
Course Approved by Program Coordinator <sup>1</sup>		6
<b>Total Credits</b>		<b>64</b>

<sup>1</sup> Courses Approved by the Program Coordinator suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, or AHS course.

## Medical Coding Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510716706

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
General Education and Technical Core Subtotal		49
ACT 101 or ACC 201	Fundamentals of Accounting I Financial Accounting	3
MIT 204	Medical Coding	3
MIT 205	Advanced Medical Coding	3
OST 235	Business Communications Technology	3
Course Approved by Program Coordinator <sup>1</sup>		3
<b>Total Credits</b>		<b>64</b>

<sup>1</sup> Courses Approved by the Program Coordinator suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, or AHS course.

## Medical Office Management Track

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510716709

Course	Title	Credits
General Education and Technical Core Subtotal		49
ACT 101 or ACC 201	Fundamentals of Accounting I Financial Accounting	3
OST 235	Business Communications Technology	3
BAS 160	Introduction to Business	3
OST 275 or BAS 283	Office Management Principles of Management	3
Course Approved by Program Coordinator <sup>1</sup>		3
<b>Total Credits</b>		<b>64</b>

<sup>1</sup> Courses Approved by the Program Coordinator suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, or AHS course.

## Medical Transcription Track

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 510716708

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
General Education and Technical Core Subtotal		49
MIT 106	Introduction to Medical Transcription	3
MIT 206	Medical Transcription	3
OST 235	Business Communications Technology	3
Course Approved by Program Coordinator <sup>1</sup>		6
<b>Total Credits</b>		<b>64</b>

<sup>1</sup> Courses Approved by the Program Coordinator suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, or AHS course.

## Medical Administrative Assistant - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107164019

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education/Applied Academics</b>		
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
ENG 101	Writing I	3
Subtotal		7
<b>Technical or Support Courses</b>		
ACT 101 or ACC 201	Fundamentals of Accounting I Financial Accounting	3
OST 105 or CIT 105	Introduction to Information Systems Introduction to Computers	3
MIT 103 or AHS 115 or CLA 131	Medical Office Terminology Medical Terminology Medical Terminology from Greek and Latin	3
MAT 105	Business Mathematics (or Higher Quantitative Reasoning Course)	3



OST 110	Word Processing Applications	3
MIT 104	Medical Insurance	3
MIT 217	Medical Office Procedures	3
MIT 227	Medical Office Software	3
MIT 228	Electronic Medical Records	3
MIT 230	Medical Information Management	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
or CIT 130	Productivity Software	
MIT 295	Medical Information Technology Capstone	3
Course Approved by Program Coordinator <sup>2</sup>		3
Subtotal		42
<b>Total Credits</b>		<b>49</b>

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

<sup>2</sup> Courses Approved by the Program Coordinator suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM Course, AHS course, WPP course, or NAA 100.

## Medical Records Specialist - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5107164069

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>General Education/Applied Academics</b>		
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
ENG 101	Writing I	3
Subtotal		7
<b>Technical or Support Courses</b>		
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
OST 110	Word Processing Applications	3
OST 235	Business Communications Technology	3
OST 240	Advanced Microsoft Applications	3
or CIT 130	Productivity Software	
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 104	Medical Insurance	3
MIT 217	Medical Office Procedures	3
MIT 227	Medical Office Software	3

MIT 228	Electronic Medical Records	3
MIT 230	Medical Information Management	3
MIT 295	Medical Information Technology Capstone	3
Subtotal		33
<b>Total Credits</b>		<b>40</b>

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

## Electronic Health Records Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107163069

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 104	Medical Insurance	3
Select one of the following two options:		1-3
OST 110	Word Processing Applications	
Course Approved by Program Coordinator <sup>1</sup>		
MIT 217	Medical Office Procedures	3
MIT 224	Medical Practice Management	3
MIT 227	Medical Office Software	3
MIT 228	Electronic Medical Records	3
MIT 230	Medical Information Management	3
OST 240	Advanced Microsoft Applications	3
or CIT 130	Productivity Software	
<b>Total Credits</b>		<b>28-30</b>

<sup>1</sup> Courses Approved by the Program Coordinator Suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM course, AHS course, WPP course or NAA 100

## Hospital Admissions Specialist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107163029

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
ENG 101	Writing I	3
Select one of the following two options:		3
OST 110	Word Processing Applications	
Course Approved by Program Coordinator <sup>1</sup>		
OST 235	Business Communications Technology	3
MIT 104	Medical Insurance	3
MIT 217	Medical Office Procedures	3
MIT 224	Medical Practice Management	3
MIT 228	Electronic Medical Records	3
MIT 230	Medical Information Management	3
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Courses Approved by the Program Coordinator Suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM course, AHS course, WPP course or NAA 100

## Medical Coding - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107163079

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 104	Medical Insurance	3
MIT 204	Medical Coding	3
MIT 205	Advanced Medical Coding	3
Select one of the following two options:		3
OST 110	Word Processing Applications	
Course Approved by the Program Coordinator <sup>2</sup>		
Course Approved by the Program Coordinator <sup>2</sup>		3
<b>Total Credits</b>		<b>22</b>

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

<sup>2</sup> Courses Approved by the Program Coordinator Suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM course, AHS course, WPP course or NAA 100.

## Medical Interpreter - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5107163120

### Curriculum Effective Spring Semester

Course	Title	Credits
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
ENG 101	Writing I	3
MIT 240	Medical Interpreter-Lecture	3
MIT 241	Medical Interpreter-Laboratory	1
Course Approved by Program Coordinator <sup>2</sup>		3
<b>Total Credits</b>		<b>17</b>

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

<sup>2</sup> Courses Approved by the Program Coordinator Suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM course, AHS course, WPP course or NAA 100.

## Medical Receptionist - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard

Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107163110

**May be available completely online. Please check with your academic advisor.**

#### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
OST 110	Word Processing Applications	3
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 217	Medical Office Procedures	3
MIT 230	Medical Information Management	3
<b>Total Credits</b>		<b>15</b>

## Medical Transcription/Scribe - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5107163099

**May be available completely online. Please check with your academic advisor.**

#### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
OST 110	Word Processing Applications	3
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
ENG 101	Writing I	3
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 106	Introduction to Medical Transcription	3
MIT 217	Medical Office Procedures	3
MIT 228	Electronic Medical Records	3

MIT 230	Medical Information Management	3
<b>Total Credits</b>		<b>28</b>

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

## Medical Transcriptionist - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107163089

**May be available completely online. Please check with your academic advisor.**

#### Curriculum Effective Spring Semester

Course	Title	Credits
ENG 101	Writing I	3
OST 110	Word Processing Applications	3
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 106	Introduction to Medical Transcription	3
MIT 206	Medical Transcription	3
MIT 217	Medical Office Procedures	3
Courses Approved by Program Coordinator <sup>1</sup>		6
<b>Total Credits</b>		<b>24</b>

<sup>1</sup> Courses Approved by the Program Coordinator Suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM course, AHS course, WPP course or NAA 100.

## Medical Unit Coordinator - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5107163019

**May be available completely online. Please check with your academic advisor.**

#### Curriculum Effective Spring Semester

Course	Title	Credits
OST 105	Introduction to Information Systems	3
or CIT 105	Introduction to Computers	
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
ENG 101	Writing I	3
Select one of the following two options:		3
OST 110	Word Processing Applications	
Course Approved by Program Coordinator <sup>2</sup>		
MIT 103	Medical Office Terminology	3
or AHS 115	Medical Terminology	
or CLA 131	Medical Terminology from Greek and Latin	
MIT 104	Medical Insurance	3
MIT 217	Medical Office Procedures	3
MIT 224	Medical Practice Management	3
MIT 228	Electronic Medical Records	3
MIT 230	Medical Information Management	3
Total Credits		31

<sup>1</sup> Students can fulfill the Biology requirement with both BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours).

<sup>2</sup> Courses Approved by the Program Coordinator Suggestions: Any MIT course, BAS course, OST course, ACC/ACT course, CIT course, COM course, AHS course, WPP course or NAA 100.

## Medical Laboratory Technician

The Medical Laboratory Technician (MLT) program provides students with the opportunity to acquire the necessary skills to work under the supervision of a registered clinical scientist or pathologist in a clinical laboratory, hospital, or other health agency.

The MLT student learns to collect specimens from the patient and perform laboratory tests in all areas of the clinical laboratory to include immunohematology, clinical chemistry, hematology, microbiology, serology and urinalysis.

Students enrolled in the MLT program must achieve a minimum grade of "C" in each of the medical laboratory technician courses.

Upon completion of the program, the graduate is eligible for the national certification examination as a medical laboratory technician.

The following Associate Degree Medical Laboratory Technician Programs are fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Address and telephone number of NAACLS are:

NAACLS  
5600 North River Road, Suite 720  
Rosemont, Illinois 60018

Telephone: 773.714.8880

Fax: 773.714.8886

Website: <http://www.naacls.org>

E-mail: [info@naacls.org](mailto:info@naacls.org).

- Henderson Community College,
- Jefferson Community and Technical College,

- Madisonville Community College,
- Maysville Community and Technical College,
- Somerset Community College,
- Southeast Kentucky Community and Technical College, and
- West Kentucky Community and Technical College.

All program graduates take the national board exam, called the Board of Certification of the American Society of Clinical Pathology, after having met their academic and laboratory educational requirements. If successful, graduates may then use the initials "MLT (ASCP)" indicating proficiency in laboratory medicine.

## Degrees

- Medical Laboratory Technician - AAS (p. 292)
  - Pathway I (p. 293)
  - Pathway II (p. 293)

## Certificates

- Advanced Phlebotomy Technician - Certificate (p. 293)
- Phlebotomist - Certificate (p. 293)
- Phlebotomy for the Health Care Worker - Certificate (p. 293)
- Physician's Office Laboratory - Certificate (p. 294)

## Medical Laboratory Technician - AAS

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5110047049

Students enrolled in the MLT program must achieve a minimum grade of "C" in each of the medical laboratory technician courses.

Course	Title	Credits
General Education		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	3-4
Higher Level Quantitative Reasoning Course		
Select one of the following two options:		3-4
CHE 130	Introductory General and Biological Chemistry	3
Higher Level Chemistry Course		
PSY 110	General Psychology	3
Heritage or Humanities		3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
Subtotal		18-19
Core Courses		
Digital Literacy Course or demonstrated competency		0-3
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
MLT 112	Urinalysis	2
MLT 115	Serology	2

Select one of the following two options: 7

MLT 215 & MLT 216	Hematology I and Hematology II
MLT 217 & MLT 218	Fundamentals of Hematology and Clinical Hematology

Select one of the following two options: 4

MLT 225 & MLT 226	Immunohematology I and Immunohematology II
MLT 227	Immunohematology

MLT 278 Practicum I 4-5

Pathway 1 requires 4 hours of practicum

Pathway 2 requires 5 hours of practicum

Core Subtotal 23-27

General Education and Core Subtotal 41-46

**Students must complete one of the pathways listed below to complete the AAS requirements.**

## Pathway I

**Offered at:** Elizabethtown Community and Technical College, Henderson Community College, Somerset Community College

**Program Plan Number:** 511004703

Course	Title	Credits
<b>Required</b>		
General Education and Core Subtotal		41-46
BIO 225	Medical Microbiology with Laboratory	4
MLT 101	Introduction to the Clinical Laboratory	3
PHB 151	Phlebotomy for the Health Care Worker	1
PHB 152	Phlebotomy: Clinical Experience	1
MLT 205	Clinical Microbiology I	3
MLT 206	Clinical Microbiology II	2
MLT 233	Clinical Chemistry I	3
MLT 234	Clinical Chemistry II	2
MLT 279	Practicum II	4
Subtotal		23
<b>Total Credit Hours- Pathway I</b>		<b>64-68</b>

## Pathway II

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 511004704

Course	Title	Credits
<b>Required</b>		
General Education and Core Subtotal		41-46
MLT 207	Introduction to Clinical Diagnostic Microbiology	2
PHB 170	Applied Phlebotomy	3
PHB 152	Phlebotomy: Clinical Experience	1
MLT 208	Clinical Diagnostic Microbiology I	3
MLT 209	Clinical Diagnostic Microbiology II	2
MLT 247	Introduction to Clinical Chemistry	3

MLT 248 Advanced Clinical Chemistry 3

MLT 279 Practicum II 5

Subtotal 22

**Total Credit Hours- Pathway II 64-68**

<sup>1</sup> BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) and BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours) may be substituted for BIO 135 Basic Anatomy and Physiology with Laboratory (4 credit hours).

## Advanced Phlebotomy Technician - Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 5110043049

Course	Title	Credits
<i>Select one of the following three options:</i>		<i>6-8</i>
<i>Option 1</i>		
PHB 151	Phlebotomy for the Health Care Worker	
PHB 152	Phlebotomy: Clinical Experience	
PHB 155	Phlebotomy Clinical	
MLT 101	Introduction to the Clinical Laboratory	
<i>Option 2</i>		
PHB 151	Phlebotomy for the Health Care Worker	
PHB 153	Advanced Topics in Phlebotomy	
PHB 155	Phlebotomy Clinical	
<i>Option 3</i>		
PHB 170	Applied Phlebotomy	
PHB 152	Phlebotomy: Clinical Experience	
PHB 155	Phlebotomy Clinical	
<b>Total Credits</b>		<b>6-8</b>

## Phlebotomist - Certificate

**Offered at:** Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 5110043079

Course	Title	Credits
PHB 100 or PHB 170	Phlebotomy Applied Phlebotomy	3-6
PHB 155	Phlebotomy Clinical	2-3
<b>Total Credits</b>		<b>5-9</b>

## Phlebotomy for the Health Care Worker - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and



Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5110043039

Course	Title	Credits
<i>Select one of the following two options:</i>		4-5
<i>Option 1</i>		
PHB 151	Phlebotomy for the Health Care Worker	
PHB 152	Phlebotomy: Clinical Experience	
MLT 101	Introduction to the Clinical Laboratory	
<i>Option 2</i>		
PHB 170	Applied Phlebotomy	
PHB 152	Phlebotomy: Clinical Experience	
<b>Total Credits</b>		<b>4-5</b>

## Physician's Office Laboratory - Certificate

**Offered at:** Elizabethtown Community and Technical College, Hazard Community and Technical College, Henderson Community College, Jefferson Community and Technical College, Madisonville Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5110043029

Course	Title	Credits
<i>Select one of the following two options:</i>		4-5
<i>Option 1</i>		
PHB 151	Phlebotomy for the Health Care Worker	
PHB 152	Phlebotomy: Clinical Experience	
MLT 101	Introduction to the Clinical Laboratory	
<i>Option 2</i>		
PHB 170	Applied Phlebotomy	
PHB 152	Phlebotomy: Clinical Experience	
MLT 112	Urinalysis	2
MLT 115	Serology	2
<b>Total Credits</b>		<b>8-9</b>

## Mining Technology

The Mining Technology program will focus on the knowledge needed to succeed in the coal mining industry. Emphasis will be given to the statutory rights and safety procedures in all of the offerings including: the self-rescuer device, transportation controls, communication controls, mining conditions, mining methods, mining cycle, escapeways, emergency procedures, roof control, ground control, ventilation, health hazards, clean-up and rock dusting, health and safety aspects of assigned task, mine gases, explosives, compressed cylinders, electrical hazards, first aid, operation of equipment, electrical knowledge and troubleshooting, repairing electrical and fluid power equipment,

maintaining the equipment, fabricating, supervising, and the engineering aspects of mining.

## Degrees

- Mining Technology - AAS (p. 294)
  - Electricians Track (p. 295)
  - Engineering Operations Track (p. 295)
  - Mechanics Track (p. 295)
  - Operators Track (p. 295)
  - Supervisors Track (p. 295)

## Diplomas

- Underground Mining Repair Technology - Diploma (p. 296)

## Certificates

- Inexperienced Surface Trainee - Certificate (p. 296)
- Inexperienced Underground Trainee - Certificate (p. 296)
- Mining Technician Assistant I - Certificate (p. 296)
- Mining Technician Assistant II - Certificate (p. 296)
- Mining Technician I - Certificate (p. 297)
- Mining Technician II - Certificate (p. 297)
- Surface Field Mechanic - Certificate (p. 297)
- Surface Operator - Certificate (p. 297)
- Surface Supervisor - Certificate (p. 297)
- Surface Technician/Greaser - Certificate (p. 297)
- Underground Mechanic/Electrician - Certificate (p. 297)
- Underground Operator - Certificate (p. 298)
- Underground Supervisor - Certificate (p. 298)

## Mining Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509017019

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Quantitative Reasoning course <sup>1</sup>		3
Social/Behavioral Science course		3
Select one of the following two options:		4
GLY 101 & GLY 111	Physical Geology and Physical Geology Laboratory	
Natural Sciences		
Heritage/Humanities		3
Subtotal		16
<b>Technical Core</b>		
Digital Literacy		3
BAS 160	Introduction to Business	3
EFM 100 or BAS 120	Personal Financial Management Personal Finance	3
MNG 102	Introduction to Mine Engineering and Mining Technology	3

MNG 150	Mining Laws	3
MNG 160	Elements of Underground Mining	3
MNG 170	Elements of Surface Mining	2
MNG 180	Environmental Issues in Mining	3
MNG 274	Mine Safety	3
Subtotal		26
General Education and Technical Core Subtotal		42
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

<sup>1</sup> MAT 150 College Algebra (3 credit hours) is required for Engineering Operations Track and Supervisors Track.

## Electricians Track

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 150901703

Course	Title	Credits
General Education & Technical Core Subtotal		42
Select one of the following two options:		5
MNG 123 & MNG 125	Mining Electricity I and Mining Electricity I Lab	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	
ELT 244	Electrical Machinery and Controls (or Equivalent course)	4
ELT 250	Programmable Logic Controllers	4
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
Technical Electives: Any AIT, EET, ELT, IMT, CIT, ISM, ENV, SMT, CAD, ICT, MNG, MFG or any other course as approved by the program coordinator.		2
<b>Total Credits</b>		<b>62</b>

## Engineering Operations Track

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 150901701

Course	Title	Credits
General Education & Technical Core Subtotal		42
MAT 154 or MAT 155	Trigonometry Trigonometry	2-3
Blueprint Reading course		2-3
MNG 286	Roof Control and Ventilation	3
Technical Electives: Any AIT, EET, ELT, IMT, CIT, ISM, ENV, SMT, CAD, ICT, MNG, MFG or any other course as approved by the program coordinator.		12
<b>Total Credits</b>		<b>61-63</b>

## Mechanics Track

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 150901705

Course	Title	Credits
General Education & Technical Core Subtotal		42
Blueprint Reading course		2-3
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
ELT 122	Mechanical Power Transmission Systems	3
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
Technical Electives: Any AIT, EET, ELT, IMT, CIT, ISM, ENV, SMT, CAD, ICT, MNG, MFG or any other course as approved by the program coordinator.		2
<b>Total Credits</b>		<b>62-65</b>

## Operators Track

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 150901702

Course	Title	Credits
General Education & Technical Core Subtotal		42
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
MNG 161	Elements of Underground Mining Lab	1
MNG 171	Elements of Surface Mining Lab	1
Technical Electives: Any AIT, EET, ELT, IMT, CIT, ISM, ENV, SMT, CAD, ICT, MNG, MFG or any other course as approved by the program coordinator.		11-13
<b>Total Credits</b>		<b>60-62</b>

## Supervisors Track

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 150901704

Course	Title	Credits
General Education & Technical Core Subtotal		42
ACT 101	Fundamentals of Accounting I	3
BAS 283	Principles of Management	3
BAS 288	Personal and Organizational Leadership	3
MNG 286	Roof Control and Ventilation	3

Technical Electives: Any AIT, EET, ELT, IMT, CIT, ISM, ENV, SMT, CAD, ICT, MNG, MFG or any other course as approved by the program coordinator.	8
<b>Total Credits</b>	<b>62</b>

# Underground Mining Repair Technology - Diploma

This program is not currently offered at a KCTCS College.

Program Plan Number: 1509014019

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Heritage/Humanities		
<i>Area 2</i>		
Select one of the following three options:		3
Social/Behavioral Sciences		
Natural Sciences		
Quantitative Reasoning		
Subtotal		6
<b>Technical Courses</b>		
Blueprint Reading course		2-3
Digital Literacy course or demonstrated competency <sup>1</sup>		0-3
EFM 100 or BAS 120	Personal Financial Management / Personal Finance	3
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
ELT 250	Programmable Logic Controllers	4
Select one of the following two options:		3-5
ELT 265 Applied Fluid Power		
FPX 100 & FPX 101 Fluid Power and Fluid Power Lab		
IMT 150	Maintaining Industrial Equipment I	3
IMT 151	Maintaining Industrial Equipment I Lab	2
Select one of the following two options:		5
MNG 123 & MNG 125 Mining Electricity I and Mining Electricity I Lab		
IMT 110 & IMT 111 Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab		
MNG 190 or KHP 190	Mine Emergency Technician / First Aid and Emergency Care	2-3
MNG 185	Mining Permissibility	3
MNG 274	Mine Safety	3
Technical Electives: Any AIT, EET, ELT, IMT, CIT, ISM, ENV, SMT, CAD, ICT, MNG, MFG or any other course as approved by the program coordinator.		9-12
Subtotal		44-54
<b>Total Credits</b>		<b>50-60</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

# Inexperienced Surface Trainee - Certificate

Offered at: Madisonville Community College

Program Plan Number: 1509013149

Course	Title	Credits
MNG 170	Elements of Surface Mining	2
<b>Total Credits</b>		<b>2</b>

# Inexperienced Underground Trainee - Certificate

Offered at: Madisonville Community College

Program Plan Number: 1509013159

Course	Title	Credits
MNG 160	Elements of Underground Mining	3
<b>Total Credits</b>		<b>3</b>

# Mining Technician Assistant I - Certificate

Offered at: Big Sandy Community and Technical College

Program Plan Number: 1509013019

Course	Title	Credits
PMX 100	Precision Measurement	3
DIT 103	Preventive Maintenance Lab	2
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
<b>Total Credits</b>		<b>10</b>

# Mining Technician Assistant II - Certificate

Offered at: Big Sandy Community and Technical College, Madisonville Community College

Program Plan Number: 1509013029

Course	Title	Credits
MNG 123	Mining Electricity I	4
MNG 125	Mining Electricity I Lab	1
Select one of the following two options:		3-5
ELT 265 Applied Fluid Power		
FPX 100 & FPX 101 Fluid Power and Fluid Power Lab		
<b>Total Credits</b>		<b>8-10</b>

## Mining Technician I - Certificate

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509013039

Course	Title	Credits
Digital Literacy Course or demonstrated competency		0-3
MNG 160	Elements of Underground Mining	3
MNG 150	Mining Laws	3
MNG 286	Roof Control and Ventilation	3
<b>Total Credits</b>		<b>9-12</b>

## Mining Technician II - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1509013049

Course	Title	Credits
Digital Literacy Course or demonstrated competency		0-3
MNG 123	Mining Electricity I	4
MNG 125	Mining Electricity I Lab	1
MNG 150	Mining Laws	3
MNG 190	Mine Emergency Technician	2-3
or KHP 190	First Aid and Emergency Care	
MNG 286	Roof Control and Ventilation	3
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
<b>Total Credits</b>		<b>18-22</b>

## Surface Field Mechanic - Certificate

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509013109

Course	Title	Credits
ELT 122	Mechanical Power Transmission Systems	3
Select one of the following two options:		3-5
ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
<b>Total Credits</b>		<b>11-13</b>

## Surface Operator - Certificate

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509013139

Course	Title	Credits
MNG 170	Elements of Surface Mining	2
MNG 171	Elements of Surface Mining Lab	1
Select one of the following three options:		3
EFM 100	Personal Financial Management	
BAS 120	Personal Finance	
WPP 200	Workplace Principles	
Select one of the following two options:		3
HEO 125	Special Problems I	
Technical Elective		
<b>Total Credits</b>		<b>9</b>

## Surface Supervisor - Certificate

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509013099

Course	Title	Credits
Digital Literacy Course or demonstrated competency		0-3
Blueprint Reading Course		2-3
MNG 150	Mining Laws	3
MNG 190	Mine Emergency Technician	2-3
or KHP 190	First Aid and Emergency Care	
MNG 274	Mine Safety	3
BAS 160	Introduction to Business	3
<b>Total Credits</b>		<b>13-18</b>

## Surface Technician/Greaser - Certificate

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 1509013119

Course	Title	Credits
PMX 100	Precision Measurement	3
DIT 103	Preventive Maintenance Lab	2
ELT 122	Mechanical Power Transmission Systems	3
<b>Total Credits</b>		<b>8</b>

## Underground Mechanic/Electrician - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 1509013069

Course	Title	Credits
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Blueprint Reading Course		2-3
MNG 123	Mining Electricity I	4
MNG 125	Mining Electricity I Lab	1
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2

Select one of the following two options:

4-5

ELT 244	Electrical Machinery and Controls	
IMT 110 & IMT 111	Industrial Maintenance Electrical Principles and Industrial Maintenance Electrical Principles Lab	

ELT 250	Programmable Logic Controllers	4
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Select one of the following two options:

3-5

ELT 265	Applied Fluid Power	
FPX 100 & FPX 101	Fluid Power and Fluid Power Lab	

IMT 150	Maintaining Industrial Equipment I	3
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IMT 151	Maintaining Industrial Equipment I Lab	2
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<b>Total Credits</b>		<b>28-35</b>
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<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Underground Operator - Certificate

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509013129

Course	Title	Credits
MNG 160	Elements of Underground Mining	3
MNG 161	Elements of Underground Mining Lab	1
Select one of the following three options:		3
EFM 100	Personal Financial Management	
BAS 120	Personal Finance	
WPP 200	Workplace Principles	
<b>Total Credits</b>		<b>7</b>

## Underground Supervisor - Certificate

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College

**Program Plan Number:** 1509013079

Course	Title	Credits
MNG 150	Mining Laws	3
MNG 190 or KHP 190	Mine Emergency Technician First Aid and Emergency Care	2-3
MNG 274	Mine Safety	3
MNG 286	Roof Control and Ventilation	3
BAS 160	Introduction to Business	3
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
Blueprint Reading Course		2-3
<b>Total Credits</b>		<b>16-21</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Multi-Skilled Systems Technician

Introduces the systems approach to the operation of electrical components and the relationship of voltage, current, resistance, and power in industrial systems. Provides an overview of alternating and direct current fundamentals. Introduces the systems approach to the operation of mechanical components and the relationship of their application in industrial systems. Provides an overview of rotating machinery fundamentals. Introduces the systems approach to the operation of hydraulic/pneumatic components and the relationship of their application in industrial systems. Provides an overview of digital fundamentals.

### Certificates

- Multi-Skilled Technician - Certificate (p. 298)

## Multi-Skilled Technician - Certificate

**Offered at:** Somerset Community College

**Program Plan Number:** 4703033229

Course	Title	Credits
MST 150	Multi-Skilled Systems Technician	9
<b>Total Credits</b>		<b>9</b>

## Nursing

The Associate Degree Nursing program prepares graduates to use their skill and knowledge to fulfill the role of the nurse and is supported by the works of the National League for Nursing (NLN) Education Competencies and Quality and Safety Education in Nursing (QSEN). The NLN Outcomes and Competencies for Graduates of Associate Degree Programs in Nursing which serve as goals of nursing education for entry into nursing practice are: human flourishing, nursing judgment, professional identity, and spirit of inquiry. QSEN competencies which were developed to prepare future nurses to have the knowledge, skills and attitudes necessary to continuously improve the quality and safety of healthcare are: patient centered care, safety, informatics, teamwork and collaboration, evidenced based practice, and quality improvement. These core components are introduced, developed and built upon through the curriculum. Graduates are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The Associate Degree Nursing curriculum is organized around a clearly defined conceptual framework and combines general education and nursing courses. The nursing courses correlate classroom and clinical instruction in a variety of community agencies.

Acceptance into the Associate Degree Nursing program is based on a selective admissions process. In order to be considered for admission, applicants must comply with college and program admission requirements.

Progression in the Associate Degree Nursing program is contingent upon achievement of a grade of "C" or better in each biological science, nursing and mathematics course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). Completion of the nursing program will meet the KCTCS graduate requirement of digital literacy.

Note: The Kentucky Board of Nursing may deny a nursing graduate admission to the NCLEX-RN Exam if an individual has been convicted of



a misdemeanor or felony which involves acts that bear directly on the qualifications of the graduate to practice nursing.

The following Associate Degree Nursing programs are accredited by the Accreditation Commission for Nursing in Education, 3390 Peachtree Rd. NE, Suite 1400, Atlanta, GA 30326, (<http://www.acenursing.org>), telephone: (404) 975-5000. Please refer to individual college websites for specific accreditation information:

- Ashland Community and Technical College (<https://ashland.kctcs.edu/>)
- Bluegrass Community and Technical College (<https://bluegrass.kctcs.edu/>)
- Elizabethtown Community and Technical College (<https://elizabethtown.kctcs.edu/>)
- Henderson Community College (<https://henderson.kctcs.edu/>)
- Hopkinsville Community College (<https://hopkinsville.kctcs.edu/>)
- Jefferson Community and Technical College (<https://jefferson.kctcs.edu/>)
- Madisonville Community College (<https://madisonville.kctcs.edu/>)
- Somerset Community College (<https://somerset.kctcs.edu/>)
- Southeast Kentucky Community and Technical College (<https://southeast.kctcs.edu/>)
- West Kentucky Community and Technical College (<https://westkentucky.kctcs.edu/>)

The following Associate Degree Nursing program is accredited by the

National League of Nursing Commission for Nursing Education Accreditation (CNEA)  
2600 Virginia Avenue, NW, The Watergate  
Washington, DC 20037

[www.nln.org/cnea](http://www.nln.org/cnea) (<http://www.nln.org/cnea/>)  
telephone: (202)-909-2487:

- Owensboro Community and Technical College (<https://owensboro.kctcs.edu/>)

## Degrees

- Nursing - AAS (p. 299)
  - Nursing Modular Pathway (p. 299)
  - Nursing Standard Pathway (p. 300)

## Nursing - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5138017009

Progression in the Associate Degree Nursing program is contingent upon achievement of a grade of "C" or better in each biological science, nursing and mathematics course and maintenance of a 2.0 cumulative

grade point average or better (on a 4.0 scale). Completion of the nursing program will meet the KCTCS graduate requirement of digital literacy.

Course	Title	Credits
<b>General Education</b>		
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
BIO 225	Medical Microbiology with Laboratory	4
PSY 110	General Psychology	3
ENG 101	Writing I	3
	Quantitative Reasoning Course at AA/AS Level	3
	Heritage/Humanities Course	3
	General Education Subtotal	24
<i>Students must complete one of the pathways listed below to complete the AAS requirements.</i>		

## Nursing Modular Pathway

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 513801704

Course	Title	Credits
<b>Required</b>		
	General Education Subtotal	24
<b>Technical Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
CPR 100	CPR for Healthcare Professionals	0-1
	Select one of the following options (Most students complete NSG 101):	9
NSG 101	Nursing Practice I <sup>3</sup>	
NSG 109	Transition: Medic to ADN I <sup>1</sup>	
	Select one of the following six options (Most students complete NSG 219):	7
NSG 219	Medical Surgical Nursing I <sup>3</sup>	
NSG 209	Transition: Medic to ADN II <sup>1</sup>	
NSG 217	Transition: Military LPN to RN <sup>2</sup>	
NSG 194	Paramedic Transition to Nursing Practice <sup>4</sup>	
NSG 195	Transition to ADN <sup>2</sup>	
NSG 199	Accelerated Transition: PN-A.D.N Bridge <sup>2</sup>	
NSG 211	Maternal Newborn Nursing	3
NSG 212	Behavioral Health Nursing	3
NSG 213	Pediatric Nursing	3
NSG 229	Medical Surgical Nursing II	7
NSG 239	Medical/Surgical Nursing III	6

*Completion of the Nursing program will meet the KCTCS graduation requirement of digital literacy.*

**Total Credits** 62-66

<sup>1</sup> Taken by Level 10 Medics who meet specific program requirements.

<sup>2</sup> Taken by licensed practical nurses who meet specific program requirements.

<sup>3</sup> Credit may be awarded to Licensed Practical Nurses, Paramedics, or Level 10 Medic who meet specific program requirements.

<sup>4</sup> Taken by Paramedics who meet specific program requirements.

## Nursing Standard Pathway

This program is not currently offered at a KCTCS College.

**Program Plan Number:** 513801705

Course	Title	Credits
<b>Required</b>		
General Education Subtotal		24
<b>Technical Courses</b>		
Select one of the following two options:		0-3.5
HST 104	Health Care Basic Skills I with Clinical	
NAA 100 & CPR 100	Nursing Assistant Skills I and CPR for Healthcare Professionals	
NSG 106	Nursing One <sup>1</sup>	9
Select one of the following two options:		9
NSG 206	Nursing Two <sup>1</sup>	
NSG 196	Nursing LPN Bridge Course <sup>2</sup>	
NSG 236	Nursing Three (Family Nursing)	9
NSG 246	Nursing Four	9
HST 121	Pharmacology	2
<i>Completion of the Nursing program will meet the KCTCS graduation requirement of digital literacy.</i>		
<b>Total Credits</b>		<b>62-65.5</b>

<sup>1</sup> Credit may be awarded to Licensed Practical Nurses who meet specific program requirements.

<sup>2</sup> Taken by licensed practical nurses who meet specific program requirements.

## Nursing - Integrated Nursing

The Integrated Nursing Program provides a seamless educational pathway in nursing which allows students to choose multiple career options. The Integrated Nursing Program is designed to deliver nursing education to a cohort of students with the opportunity to complete the Practical Nursing (PN) or Associate Degree Nursing level. The curriculum is structured around a clearly defined organizing framework and provides the foundation for a competency-based approach to nursing education through the utilization of interactive and student-focused learning strategies. Content and performance-based outcomes for the nursing courses are selected, developed, and leveled from simple to complex. Classroom instruction in theory and basic nursing skills is provided in various delivery methods. Under the guidance of program faculty, students gain valuable experience in the care of patients across the lifespan in a variety of healthcare settings and/or community agencies including hospitals, long-term care facilities, clinics and child care centers.

After three semesters the student has the option to exit as a PN by enrolling in the PN exit course. This option prepares graduates to function within the legal scope of practice under the supervision of a

registered nurse or physician. The practical nursing level focuses on the maintenance of health and prevention of illness, the observation and nursing care of individuals experiencing changes in their health processes, and the evaluation of health practices of patients. Students who choose practical nursing as a career can complete the components in three semesters and are eligible to apply for licensure as a practical nurse. Graduates are eligible to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).

The Associate Degree Nursing option prepares graduates to provide and manage patient care and to become members within the discipline of nursing. The associate nursing level focuses on the application of a specialized body of knowledge and skills obtained from social and biological sciences in providing evidenced-based, clinically competent care to individuals across the life span. Students choosing the Associate in Applied Science degree in Nursing can complete the components in four semesters and are eligible to apply for licensure as a registered nurse. Graduates are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

Acceptance into the Integrated Nursing Program is based upon a selective admissions process. In order to be considered for admission, applicants must comply with college and program admission requirements. Active status as a Kentucky State Registered Nurse Aide is required prior to enrolling in the first integrated nursing course. Licensed practical nurses may receive credit for the first semester of nursing based upon specific college offerings, work experience, and active Kentucky or compact state licensure status.

Progression within the Integrated Nursing Program is contingent upon achievement of a grade of "C" or better in all program course requirements and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

If more than three years have elapsed since initial enrollment in any nursing program, an applicant must repeat all nursing courses.

A nursing graduate with a misdemeanor or felony conviction may be denied permission to access the NCLEX by the Kentucky Board of Nursing.

The Madisonville Community College Associate Degree Nursing program is currently accredited by:

Accreditation Commission for Education in Nursing, Inc.  
3390 Peachtree Road NE, Suite 1400  
Atlanta, Georgia 30326

[www.acenursing.org](http://www.acenursing.org) (<http://www.acenursing.org>)  
Telephone (404) 975-5000

## Degrees

- Nursing - Integrated Nursing - AAS (p. 301)

## Diplomas

- Integrated Nursing - Practical Nursing - Diploma (p. 301)

## Certificates

- AHA Advanced Cardiac Life Support - Certificate (p. 301)
- Kentucky Medication Aide - Certificate (p. 301)
- Medicaid Nurse Aide - Certificate (p. 302)

## Nursing - Integrated Nursing - AAS

**Offered at:** Madisonville Community College

**Program Plan Number:** 5138017069

Progression within the Integrated Nursing Program is contingent upon achievement of a grade of "C" or better in all program course requirements and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
PSY 110	General Psychology	3
ENG 101	Writing I	3
Quantitative Reasoning <sup>1</sup>		3
Heritage/Humanities		3
Subtotal		20
<b>Technical or Support Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
AHS 100	Human Growth and Development <sup>2</sup>	2
NIP 116	Fundamentals of Nursing	10
NIP 126	Nursing Care Across the Lifespan	10
NIP 212	Advanced Medical Surgical Nursing	10
NIP 216	Leadership and Transition to Practice	9
Subtotal		41-44
<i>Completion of the Integrated Nursing program will meet the KCTCS graduation requirement of digital literacy.</i>		
<b>Total Credits</b>		<b>61-64</b>

<sup>1</sup> Quantitative Reasoning must meet the AA/AS requirement.

<sup>2</sup> PSY 223 Developmental Psychology (3 credit hours) may be substituted for AHS 100 Human Growth and Development (2 credit hours).

**Note:** CPR requirements must be successfully completed prior to enrolling in the first nursing course and must be kept current throughout the program. The student can receive credit for NAA 100 Nursing Assistant Skills I (3 credit hours) outside of college. The student must be active on the Kentucky Medicaid Nurse Aide Registry at time of admission.

## Integrated Nursing - Practical Nursing - Diploma

**Offered at:** Big Sandy Community and Technical College, Madisonville Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5139014049

Course	Title	Credits
<b>General Education</b>		
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4

PSY 110	General Psychology	3
ENG 101	Writing I	3
Subtotal		14

### Technical or Support Courses

NAA 100	Nursing Assistant Skills I	0-3
NIP 116	Fundamentals of Nursing	10
AHS 100	Human Growth and Development <sup>1</sup>	2
NIP 126	Nursing Care Across the Lifespan	10
NIP 140	Practical Nursing Role Transition	6
Subtotal		28-31

*Completion of the Integrated Practical Nursing program will meet the KCTCS graduation requirement of digital literacy.*

**Total Credits** **42-45**

<sup>1</sup> PSY 223 Developmental Psychology (3 credit hours) may be substituted for AHS 100 Human Growth and Development (2 credit hours).

**Note:** CPR requirements must be successfully completed prior to enrolling in the first nursing course and must be kept current throughout the program. The student can receive credit for NAA 100 Nursing Assistant Skills I (3 credit hours) outside of college. The student must be active on the Kentucky Medicaid Nurse Aide Registry at time of admission.

## AHA Advanced Cardiac Life Support - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 5139012050

Course	Title	Credits
NIP 220	Advanced Cardiac & Emergent Care	2
<b>Total Credits</b>		<b>2</b>

## Kentucky Medication Aide - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5139012030

Course	Title	Credits
KMA 100	Kentucky Medication Aide	5
<b>Total Credits</b>		<b>5</b>

**Note:** After the student completes the first semester of the Integrated Nursing program, the student is eligible to sit for the KMA exam.

## Medicaid Nurse Aide - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5139012020

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Select one of the following four options:		3-6
MNA 100	Medicaid Nurse Aide	
NAA 100	Nursing Assistant Skills I	
NAA 125	Advanced Nursing Assistant	
HST 104	Health Care Basic Skills I with Clinical	
<b>Total Credits</b>		<b>3-6</b>

**Note:** Madisonville Community College does not offer NAA 125 Advanced Nursing Assistant (6 credit hours) or MNA 100 Medicaid Nurse Aide (3 credit hours).

## Nursing - Practical Nursing

The Practical Nursing program prepares individuals to practice within the legal scope of practical nursing under the supervision of a registered nurse, advanced practice registered nurse, physician assistant, licensed physician, or dentist. The use of the nursing process at the practical nursing level toward the maintenance of health and prevention of illness, the observation and nursing care of persons experiencing changes in their health processes, and the evaluation of health practices of patients are emphasized.

Classroom instruction in theory and basic nursing skills is provided by multiple delivery methods. Under the guidance of program faculty, students gain valuable experience in the care of all ages in a variety of health care settings and/or community agencies - hospitals, long-term care facilities, clinics and childcare centers. (Transportation to the community agencies is the responsibility of each student.)

Acceptance in the Practical Nursing program is based on a selective admission process.

Progression in the Practical Nursing program is contingent upon achievement of a grade of "C" or better in each course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

**Note:** The Kentucky Board of Nursing (KBN) may deny a nursing graduate admission to the NCLEX-PN Exam if an individual has been convicted

of a misdemeanor or felony that involves acts that bear directly on the qualifications of the graduate to practice nursing.

The practical nursing program at West Kentucky Community and Technical College, located in Paducah, KY, is accredited by the:

Accreditation Commission for Education in Nursing (ACEN)  
3390 Peachtree Road NE, Suite 1400  
Atlanta, GA 30326  
(404)975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the practical nursing program at West Kentucky Community and Technical College is Continuing Accreditation. View the public information disclosed by the ACEN regarding this program at <http://www.acenursing.com/accreditedprograms/programsearch.htm>

## Diplomas

- Nursing - Practical Nurse - Diploma (p. 302)
  - Practical Nurse Pathway 1 – Traditional (p. 302)
  - Practical Nurse – Pathway 2 – Traditional Modified (p. 303)
  - Practical Nurse – Pathway 3 – Modular (p. 303)

## Certificates

- Kentucky Medication Aide - Certificate (p. 303)
- Medicaid Nurse Aide - Certificate (p. 304)

## Nursing - Practical Nurse - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5139014039

### Curriculum Effective Spring Semester

Progression in the Practical Nursing program is contingent upon achievement of a grade of "C" or better in each course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Practical Nurse Pathway 1 – Traditional

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 513901401

Course	Title	Credits
<b>General Education</b>		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Select one of the following three options:		3
ENG 101	Writing I	



COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
Subtotal		7-11
<b>Technical Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
CPR 100	CPR for Healthcare Professionals	0-1
NPN 100	Introduction to Nursing & Health Care System	2
NPN 105	Development of Care Giver Role	6
NPN 114	Principles of Pharmacology I	3
NPN 116	Principles of Pharmacology II	3
NPN 125	Mental Health	3
NPN 135	Introduction to Health Deviation	6
NPN 200	Med Surg I	5
NPN 201	Child Bearing Family	3
NPN 205	Med Surg II	5
NPN 210	Clinical Practicum	4
NPN 215	Nursing Trends & Issues	1
Subtotal		41-45
<i>Completion of the Practical Nursing program will meet the KCTCS graduation requirement of digital literacy.</i>		
<b>Total Credits</b>		<b>48-56</b>

## Practical Nurse – Pathway 2 – Traditional Modified

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Maysville Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 513901402

Course	Title	Credits
<b>General Education</b>		
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Select one of the following three options:		3
ENG 101	Writing I	
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
Subtotal		7-11
<b>Technical Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
CPR 100	CPR for Healthcare Professionals	0-1
Select One of the Following Four Options:		1-3
AHS 120	Medical Terminology	
AHS 115	Medical Terminology	
CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
NPN 101 & NPN 112	Nursing Fundamentals and Introduction to Pharmacology	10
NPN 125	Mental Health	3
NPN 135	Introduction to Health Deviation	6

NPN 201	Child Bearing Family	3
NPN 202	Med-Surg I Alterations	6
NPN 206	Med-Surg II Alterations	6
NPN 210	Clinical Practicum	4
NPN 215	Nursing Trends & Issues	1
Subtotal		40-46
<i>Completion of the Practical Nursing program will meet the KCTCS graduation requirement of digital literacy.</i>		
<b>Total Credits</b>		<b>47-57</b>

## Practical Nurse – Pathway 3 – Modular

**Offered at:** Ashland Community and Technical College, Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 513901403

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following three options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Subtotal		7-11
<b>Technical Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
CPR 100	CPR for Healthcare Professionals	0-1
AHS 115 or CLA 131	Medical Terminology from Greek and Latin	3
NPN 106	Fundamentals of Nursing Care	6
NPN 107	Nursing Pharmacology	5
NPN 125	Mental Health	3
NPN 201	Child Bearing Family	3
NPN 203	Medical Surgical Nursing I	6
NPN 204	Medical Surgical Nursing II	6
NPN 210	Clinical Practicum	4
NPN 225	Nursing Leadership and Management	2
Subtotal		38-42
<i>Completion of the Practical Nursing program will meet the KCTCS graduation requirement of digital literacy.</i>		
<b>Total Credits</b>		<b>45-53</b>

## Kentucky Medication Aide - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community



College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5139012030

Course	Title	Credits
KMA 100	Kentucky Medication Aide	5
<b>Total Credits</b>		<b>5</b>

## Medicaid Nurse Aide - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5139012020

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Select one of the following four options:		3-6
MNA 100	Medicaid Nurse Aide	
NAA 100	Nursing Assistant Skills I	
NAA 125	Advanced Nursing Assistant	
HST 104	Health Care Basic Skills I with Clinical	
<b>Total Credits</b>		<b>3-6</b>

**Note:** Madisonville Community College does not offer NAA 125 or MNA 100.

## Nursing Assistant – Advanced

Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings.

### Certificates

- Advanced Nursing Assistant - Certificate (p. 304)

## Advanced Nursing Assistant - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5139023019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
Select one of the following three options:		6
NAA 125	Advanced Nursing Assistant	
NAA 100 & NAA 115	Nursing Assistant Skills I and Nursing Assistant II	
MNA 100 & NAA 115	Medicaid Nurse Aide and Nursing Assistant II	
Select one of the following three options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
AHS 109	Introduction to Body Structure and Functions	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Select one of the following four options:		3
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
ENG 101	Writing I	
TEC 200	Technical Communications	
Digital Literacy		3
<b>Total Credits</b>		<b>16-20</b>

## Nursing – Academic/Career Mobility Program

The Academic/Career Mobility Program provides a seamless educational option in nursing with two exit points allowing students to choose a career as an LPN or RN. The program is implemented in a shared framework which prepares graduates to use their skill and knowledge to fulfill the role of the nurse: enhance human flourishing, demonstrate sound nursing judgment, continually develop professional identity, and possess a spirit of inquiry to improve the quality of patient care. Encompassed within these roles are the core components of context and environment, knowledge and science, person/professional development, quality and safety, relationship-centered care, and teamwork. These core components are introduced, developed, and built upon through the curriculum; however, distinct parameters have been established that support the PN and RN scopes of nursing practice. The curriculum is structured around a clearly defined organizing framework and provides the foundation for a competency-based approach to nursing education through the utilization of interactive and student-focused learning strategies. Content and performance-based outcomes for the nursing courses are selected, developed, and leveled from simple to complex. Students who successfully complete the first year will receive a diploma qualifying them to apply for licensure as practical nurses. Following successful completion of the second year, students will receive the Associate in Applied Science Degree in Nursing qualifying them to apply for licensure as registered nurses.

Acceptance into the program is based on a selective admissions process. In order to be considered for admission, applicants must comply with college and program admission requirements. Licensed practical nurses who graduated within one year of admission to the program or have practiced at least one full year within the past three years and hold a current unrestricted license for practical nursing can apply to the

program and will be admitted to the associate degree level based on a selective admission process.

Progression in the Nursing Program is contingent upon achievement of a grade of "C" or better in each biological science, nursing, and mathematics course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). Completion of the nursing program will meet the KCTCS graduation requirement of digital literacy.

Note: The Kentucky Board of Nursing may deny a nursing graduate admission to the National Council Licensure Examination for Registered Nurses (NCLEX Exam) if an individual has been convicted of a misdemeanor or felony which involves acts that bear directly on the qualifications of the graduate to practice nursing.

## Degrees

- Nursing-Academic/Career Mobility Program - AAS (p. 305)

## Diplomas

- Academic/Career Mobility– Practical Nursing - Diploma (p. 305)

## Nursing-Academic/Career Mobility Program - AAS

**Offered at:** Big Sandy Community and Technical College, Jefferson Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 5138017049

Progression in the Nursing Program is contingent upon achievement of a grade of "C" or better in each biological science, nursing, and mathematics course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale). Completion of the nursing program will meet the KCTCS graduation requirement of digital literacy.

Course	Title	Credits
<b>General Education Courses</b>		
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
BIO 225	Medical Microbiology with Laboratory	4
PSY 110	General Psychology	3
ENG 101	Writing I	3
Quantitative Reasoning Course at AA/AS Level		3
Heritage/Humanities Course		3
Subtotal		24
<b>Technical Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
CPR 100	CPR for Healthcare Professionals	0-1
Select one of the following two options:		19
NRS 101 & NRS 102	Nursing Care I and Nursing Care II	
NRS 200	LPN-ADN Transition <sup>1</sup>	
NRS 203	Nursing Care III	9
NRS 204	Nursing Care IV	10
Subtotal		38-42

*Completion of the Academic/Career Mobility Nursing program will meet the KCTCS graduation requirement of digital literacy.*

**Total Credits** 62-66

<sup>1</sup> Taken only by Licensed Practical Nurses who have been admitted to the program and have met the pre-requisites.

## Academic/Career Mobility– Practical Nursing - Diploma

**Offered at:** Big Sandy Community and Technical College, Jefferson Community and Technical College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5139014009

Course	Title	Credits
<b>General Education Courses</b>		
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
ENG 101	Writing I	3
PSY 110	General Psychology	3
Quantitative Reasoning Course at AA/AS Level		3
Subtotal		17
<b>Technical Courses</b>		
NAA 100	Nursing Assistant Skills I	0-3
CPR 100	CPR for Healthcare Professionals	0-1
NRS 101	Nursing Care I	9
NRS 102	Nursing Care II	10
Subtotal		19-23
<i>Completion of the Academic/Career Mobility Practical Nursing program will meet the KCTCS graduation requirement of digital literacy.</i>		
<b>Total Credits</b>		<b>36-40</b>

## Occupational Therapy Assistant

The Occupational Therapy Assistant Program is designed to provide a quality educational experience that will train prospective professionals in the art and science of promoting and maintaining the holistic health and wellness of people, organizations, and populations through engagement in occupation. Graduates will be able to perform/engage as entry-level professionals under the supervision of an Occupational Therapist (OT). Graduates will develop skills necessary for employment as Certified Occupational Therapy Assistants, thereby meeting the students' individual needs and the expressed health-care needs of the local and extended communities served by the Colleges. The program strives to fill a growing need for professionals able to contribute to all facets of occupational therapy, from community-based programs to client-centered intervention. The program promotes the value and professional importance of life-long learning.

A basic background in natural sciences, mathematics, communication, and behavioral sciences undergirds the specialized course work. Specialized course work prepares students for the certification examination they will take to become Certified Occupational Therapy Assistants (COTA). Employment may be in hospitals, rehabilitation

facilities, nursing homes, clinics, and other health care facilities, as well as within pediatric, community, or educational settings.

Acceptance in to the OTA program is based on a selective admission process. In order to be considered for admission, applicants must comply with college and program admissions requirements.

Progression in the Occupational Therapy Assistant Program is contingent upon the achievement of a minimum grade of a “C” or higher in each OTA course and prerequisite courses.

CPR requirement must be successfully completed prior to enrolling in the first semester of OTA program. The CPR course must be Professional or Healthcare Provider.

Background check and drug screen prior to admission is required by all students, and students with a misdemeanor or felony conviction may be denied permission to access fieldwork sites.

Students will be responsible for their own transportation for fieldwork.

Documentation of digital literacy as defined by KCTCS is required prior to enrolling in the first OTA course.

All prerequisite courses must be complete before a student is admitted in the OTA program.

The Occupational Therapy Assistant Program is accredited by the

Accreditation Council on Occupational Therapy Education (ACOTE), of the American Occupational Therapy Association (AOTA)  
6116 Executive Boulevard, Suite 200  
North Bethesda, MD 20852-4929

ACOTE’s telephone number c/o AOTA is (301) 652-AOTA and its Web address is [www.acoteonline.org](http://www.acoteonline.org) (<http://www.acoteonline.org>).

Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination.

Note: An OTA graduate with a misdemeanor or felony conviction may be denied permission to access the NBCOT certification exam. The student is responsible for contacting NBCOT prior to admission.

## Degrees

- Occupational Therapy Assistant - AAS (p. 306)
  - Pathway # 1 (p. 306)
  - Pathway #2 (p. 306)

## Occupational Therapy Assistant - AAS

**Offered at:** Jefferson Community and Technical College, Madisonville Community College

**Program Plan Number:** 5108037009

Progression in the Occupational Therapy Assistant Program is contingent upon the achievement of a minimum grade of a “C” or higher in each OTA course and prerequisite courses.

Course	Title	Credits
<b>General Education Core</b>		
ENG 101	Writing I	3
ENG 102	Writing II	3
PSY 110	General Psychology	3
PSY 223	Developmental Psychology	3
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
	Heritage/Humanities <sup>1</sup>	3
MAT 110	Applied Mathematics (or Higher)	3
General Education Core Subtotal		26

*Students must complete one of the pathways listed below to complete the AAS requirements.*

<sup>1</sup> Madisonville Community College recommends REL 130 Introduction to Comparative Religion (3 credit hours) to fulfill the Heritage/Humanities requirement.

## Pathway # 1

**Offered at:** Madisonville Community College

**Program Plan Number:** 510803701

Course	Title	Credits
<b>Required</b>		
General Education Core Subtotal		26
<b>Technical Core</b>		
OTA 101	Introduction to Occupational Therapy	3
OTA 126	Level IA Fieldwork	1
OTA 146	Occupational Therapy in Mental Health	3
OTA 136	Physical Dysfunction	4
OTA 226	Level IB Fieldwork	1
OTA 246	Pediatric Issues in Occupational Therapy	3
OTA 256	Elder Issues in Occupational Therapy	2
OTA 206	Community Practice	2
OTA 236	Professional Transitions and Management	2
OTA 267	Level IIA Fieldwork	5
OTA 277	Level IIB Fieldwork	5
<b>Additional Technical Courses (Madisonville Community College Only)</b>		
OTA 113	Applied Anatomy and Kinesiology	2
OTA 115	Skills and Interventions I	2
OTA 125	Assistive Technology and Documentation	2
OTA 225	Skills and Interventions II	2
OTA 286	Clinical Seminar	2

**Total Credits** **67**

## Pathway #2

**Offered at:** Jefferson Community and Technical College

Program Plan Number: 510803702

Course Required	Title	Credits
General Education Core Subtotal		26
<b>Additional General Education (Jefferson Only)</b>		
SOC 101	Introduction to Sociology	3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
<b>Technical Core</b>		
OTA 101	Introduction to Occupational Therapy	3
OTA 126	Level IA Fieldwork	1
OTA 146	Occupational Therapy in Mental Health	3
OTA 136	Physical Dysfunction	4
OTA 226	Level IB Fieldwork	1
OTA 246	Pediatric Issues in Occupational Therapy	3
OTA 256	Elder Issues in Occupational Therapy	2
OTA 206	Community Practice	2
OTA 236	Professional Transitions and Management	2
OTA 267	Level IIA Fieldwork	5
OTA 277	Level IIB Fieldwork	5
<b>Additional Technical Courses (Jefferson Community and Technical College Only)</b>		
OTA 116	Media Principles and Procedures I	2
OTA 216	Media Principles and Procedures II	2
<b>Recommended Additional Technical Courses (Jefferson Community and Technical College Only)</b>		
OTA 286	Clinical Seminar	
<b>Total Credits</b>		<b>67</b>

## Orthotics and Prosthetics Technology

The Orthotics and Prosthetics program prepares graduates to use their skill and knowledge to fabricate, repair, and maintain orthopedic braces and artificial limbs to provide the best possible fit, function and appearance in consultation with the practitioner. The program will provide a background in musculoskeletal anatomy, material science, fabrication techniques, and job preparation skills. The curriculum will prepare the student to take the American Board of Certification in Orthotics, Prosthetics and Pedorthics (ABC) exam.

- Orthotics and Prosthetics Technology - AAS (p. 307)

## Orthotics and Prosthetics Technology - AAS

Offered at: Bluegrass Community and Technical College

Program Plan Number: 5123997019

Course	Title	Credits
<i>General Education Requirements</i>		
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher Level Quantitative Reasoning Course		
Select one of the following two options:		4-8

BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
Social and Behavioral Sciences Course		3
Heritage /Humanities Course		3
Written Communications Course		3
General Education Subtotal		16-20
<i>Technical Core Courses</i>		
Select one of the following four options:		1-3
AHS 115	Medical Terminology	
CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
AHS 120	Medical Terminology	
ORP 100	Introduction to Orthotics and Prosthetics	2
ORP 101	Lower Extremity Orthotics I	3
ORP 102	Spinal Orthotics	3
ORP 103	Lower Extremity Orthotics II	4
ORP 104	Lower Extremity Orthotics III	3
ORP 105	Upper Extremity Orthotics	3
ORP 106	Orthotic and Prosthetic Skill Development	3
ORP 107	Orthotic Prosthetic Biomaterials	2
ORP 108	Introduction to Orthotics and Prosthetics	2
ORP 195	Clinical Experience I	4
ORP 200	Transfemoral Prosthetics	4
ORP 201	Transfemoral Prosthetics	4
ORP 202	Transradial and Transhumeral Prosthetics	4
ORP 203	Advanced Techniques	3
ORP 295	Clinical Experience II	4

*Completion of the Orthotics and Prosthetics Technology program will meet the KCTCS graduation requirement of Digital Literacy.*

**Total Credits**

**65-71**

## Paralegal Technology

The Paralegal Technology curriculum is designed to prepare a person for entry-level employment as a paralegal in courts, corporations, law firms, and government agencies. Paralegal Technology is a program of study that requires courses in the technical area. In addition, the Associate in Applied Science degree also requires general education courses.

The curriculum is based on standards developed from the National Association of Legal Assistants' Descriptions of Certified Paralegal (CP) Exam Sections. Additional research data used in the development of publication was collected from a review of related literature.

Industry standards are based on the *National Association of Legal Assistants' Descriptions of Certified Paralegal (CP) Exam Sections*.

The successful completion of the Paralegal Technology Program should provide the student the opportunity for employment as a paralegal in private law firms, courts, trust departments of banks, corporations, and government agencies.

Progression in the Paralegal Technology program is contingent upon achievement of a grade of "C" or better in each paralegal technical course.



The Associate in Applied Science degree received upon completion of this concentration is not designed for transfer to a senior college or university. It is designed for immediate employment preparation.

Students should contact the senior college or university of their choosing to determine what, if any, courses will be accepted as transfer credits.

The Civil Litigation Certificate, Paralegal Technology Certificate, and Family Law Certificate are embedded in the Paralegal Technology AAS Degree.

The Legal Nurse Consultant certificate will not be embedded into the AAS degree program. The certificate is designed for registered nurses to obtain sufficient legal training to work in a consultation role to attorneys in determining the value of a claim involving medical expenses and disability.

The e-Discovery Technology certificate will not be embedded into the AAS degree program. The certificate is designed for graduate paralegals or those working in the field for a minimum of two years to gain entry-level knowledge to e-Discovery techniques to obtain, store, and present digital evidence.

The Legal Technology certificate will not be embedded into the AAS degree program. The certificate is provided for graduate paralegals or those working in the field for a minimum of two years an introduction to current database and software programs for use in law including law office management and billing, document management and formation, and presentation software.

## Degrees

- Paralegal Technology - AAS (p. 308)

## Certificates

- Civil Litigation - Certificate (p. 308)
- e-Discovery Technology - Certificate (p. 308)
- Family Law - Certificate (p. 309)
- Legal Nurse Consultant - Certificate (p. 309)
- Legal Technology - Certificate (p. 309)
- Paralegal Technology - Certificate (p. 309)

## Paralegal Technology - AAS

**Offered at:** Gateway Community and Technical College, Madisonville Community College

**Program Plan Number:** 2203027019

**May be available completely online. Please check with your academic advisor.**

Progression in the Paralegal Technology program is contingent upon achievement of a grade of "C" or better in each paralegal technical course.

Course	Title	Credits
<b>General Education Courses</b>		
ENG 101	Writing I	3
	Quantitative Reasoning	3
	Natural Sciences	3
	Social/Behavioral Sciences <sup>1</sup>	3

Heritage/Humanities		3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
General Education Elective Approved by Program Coordinator		3
Subtotal		21
Technical Support Courses		
Digital Literacy Course or demonstrated competency		0-3
CIT 130	Productivity Software	3
Criminal Justice Elective Course <sup>2</sup>		3
Subtotal		6-9
Technical Courses		
PGL 111	Legal Systems and Terminology	3
PGL 112	Legal Research	3
PGL 113	Law Office Management	3
PGL 211	Family Law	3
PGL 212	Legal Writing	3
PGL 221	Wills and Estates	3
PGL 213	Civil Litigation I	3
PGL 214	Real Property I	3
PGL 223	Civil Litigation II	3
PGL 224	Real Property II	3
PGL 231	Torts	3
PGL 233	Ethics	3
PGL 235	Paralegal Technology Capstone	1
Subtotal		37
Total Credits		64-67

<sup>1</sup> PSY 110 General Psychology (3 credit hours) or SOC 101 Introduction to Sociology (3 credit hours) recommended.

<sup>2</sup> CRJ 100 Introduction to Criminal Justice (3 credit hours) or CRJ 216 Criminal Law (3 credit hours) recommended.

## Civil Litigation - Certificate

**Offered at:** Gateway Community and Technical College, Madisonville Community College

**Program Plan Number:** 2203023039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
PGL 111	Legal Systems and Terminology	3
PGL 112	Legal Research	3
PGL 213	Civil Litigation I	3
PGL 223	Civil Litigation II	3
PGL 231	Torts	3
<b>Total Credits</b>		<b>15</b>

## e-Discovery Technology - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 2203023059



Course	Title	Credits
PGL 245	Electronic Discovery in the Legal Environment	3
<b>Total Credits</b>		<b>3</b>

## Family Law - Certificate

**Offered at:** Gateway Community and Technical College, Madisonville Community College

**Program Plan Number:** 2203023029

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
PGL 111	Legal Systems and Terminology	3
PGL 112	Legal Research	3
PGL 211	Family Law	3
PGL 233	Ethics	3
<b>Total Credits</b>		<b>12</b>

## Legal Nurse Consultant - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 2203023049

Course	Title	Credits
PGL 250	Legal Nurse Consultant	3
<b>Total Credits</b>		<b>3</b>

## Legal Technology - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 2203023069

Course	Title	Credits
PGL 240	Legal Technology	3
<b>Total Credits</b>		<b>3</b>

## Paralegal Technology - Certificate

**Offered at:** Gateway Community and Technical College, Madisonville Community College

**Program Plan Number:** 2203023019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
ENG 101	Writing I	3
Digital Literacy Course		3
CIT 130	Productivity Software	3
PGL 111	Legal Systems and Terminology	3
PGL 112	Legal Research	3
PGL 212	Legal Writing	3
PGL 213	Civil Litigation I	3
PGL 214	Real Property I	3

PGL 223	Civil Litigation II	3
PGL 224	Real Property II	3
<b>Total Credits</b>		<b>30</b>

## Pharmacy Technology

The pharmacy technician requires training to provide a knowledge base on which to make decisions to assist the Pharmacist in their pursuit to provide exemplary patient care. The Pharmacy Technician Program prepares the student to function as a pharmacy technician under the supervision of the pharmacist. The essential elements of this program have been designed to provide competency of a skill set that pharmacy technicians can use in a wide variety of practice settings. The curriculum includes content areas in professional skills, processing and handling of medications and medication orders, patient care, quality, and safety skills, and regulatory knowledge. The program provides comprehensive educational experiences through lectures, hands on simulated labs, and experiential opportunities under the supervision of a licensed pharmacist.

All courses completed for the Pharmacy Technology diploma and certificate must be completed with a grade of "C" or higher.

## Diplomas

- Advanced Level Pharmacy Technology - Diploma (p. 309)

## Certificates

- Entry Level Pharmacy Technology - Certificate (p. 310)

## Advanced Level Pharmacy Technology - Diploma

**Offered at:** Bluegrass Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5108054029

### Curriculum Effective Spring Semester

All courses completed for the Pharmacy Technology diploma and certificate must be completed with a grade of "C" or higher.

Course	Title	Credits
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
AHS 115	Medical Terminology	3
or CLA 131	Medical Terminology from Greek and Latin	
or MIT 103	Medical Office Terminology	
Select one of the following two options:		4-8
BIO 135	Basic Anatomy and Physiology with Laboratory	
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
CIT 105	Introduction to Computers	0-3
PHA 110	Pharmacy Procedures and Skills	6
PHA 136	Pharmacology I	3
PHA 146	Pharmaceutical Calculations	3

PHA 150	Pharmacy Experience 1	3
PHA 200	Admixtures for IV Therapy	3
PHA 205	Admixture Preparations	1
PHA 236	Pharmacology 2	3
PHA 240	Pharmacy Technician Career Planning	3
PHA 251	Pharmacy Experience II	3
CPR 100	CPR for Healthcare Professionals	0-1
<b>Total Credits</b>		<b>38-46</b>

## Entry Level Pharmacy Technology - Certificate

**Offered at:** Bluegrass Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 5108053039

### Curriculum Effective Spring Semester

Course	Title	Credits
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
AHS 115	Medical Terminology	3
or CLA 131	Medical Terminology from Greek and Latin	
or MIT 103	Medical Office Terminology	
CIT 105	Introduction to Computers	0-3
PHA 110	Pharmacy Procedures and Skills	6
PHA 136	Pharmacology I	3
PHA 146	Pharmaceutical Calculations	3
PHA 150	Pharmacy Experience 1	3
<b>Total Credits</b>		<b>21-24</b>

## Physical Therapist Assistant

This program prepares the individual to become a physical therapist assistant (PTA) who is able to perform selected components of intervention and data collection under the direction and supervision of a physical therapist. The program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE).

The curriculum combines general education and physical therapy courses. Various facilities are utilized for clinical experiences. The graduate is eligible to sit for the national licensing examination for the physical therapist assistant. Enrollment in this program is limited; therefore, a selective admissions process is followed.

Students enrolled in the Physical Therapist Assistant program must achieve a minimum grade of "C" in each required general education course; a minimum grade of "C" in each required PTA didactic course; and a grade of pass in each clinical practicum course to complete the program.

CPR requirements must be attained by completing a program-approved CPR course prior to enrolling in the first physical therapist assistant course and must be kept current throughout the program.

## Degrees

- Physical Therapist Assistant - AAS (p. 310)
  - Pathway 1 (p. 310)
  - Pathway 2 (p. 311)

## Physical Therapist Assistant - AAS

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5108067049

Students enrolled in the Physical Therapist Assistant program must achieve a minimum grade of "C" in each required general education course; a minimum grade of "C" in each required PTA didactic course; and a grade of pass in each clinical practicum course to complete the program.

Course	Title	Credits
General Education		
ENG 101	Writing I	3
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
Heritage/Humanities Course		3
PSY 110	General Psychology	3
PSY 223	Developmental Psychology	3
MAT 150	College Algebra	3
Oral Communications (Pathway II requires completion of COM 181)		3
General Education Subtotal		26

*Students must complete one of the pathways listed below to complete the AAS requirements.*

## Pathway 1

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Maysville Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510806703

Course	Title	Credits
General Education Subtotal		26
<b>Technical Courses</b>		
Digital Literacy		0-3
PTA 101	Orientation to Physical Therapy Practice	5
PTA 125	Neuroanatomy for the PTA	1
PTA 150	Functional Anatomy and Kinesiology	6
PTA 160	Medical and Surgical Conditions in Physical Therapy	3
PTA 170	Clinical Practicum I	1
PTA 200	Modalities & Procedures in Physical Therapy	5

PTA 220	Physical Therapy Principles & Procedures	5
PTA 240	Clinical Practicum II	2
PTA 250	Neurological Rehabilitation in Physical Therapy	5
PTA 260	Seminar in Physical Therapy	2
PTA 280	Clinical Practicum III	5
Subtotal		40-43
<b>Total Credits</b>		<b>66-69</b>

## Pathway 2

**Offered at:** Madisonville Community College

**Program Plan Number:** 510806704

Course	Title	Credits
General Education Subtotal		26
<b>Technical Support Courses</b>		
AHS 105	Introduction to Health Occupations	3
<b>Technical Courses</b>		
Digital Literacy		0-3
PTA 1501	Functional Anatomy and Kinesiology Lab	3
PTA 1502	Functional Anatomy and Kinesiology Lecture	3
PTA 120	Basic Skills for the PTA	2
PTA 121	Basic Skills for the PTA Lab	2
PTA 170	Clinical Practicum I	1
PTA 222	Pathology & Rehabilitation of Orthopedic Conditions	2
PTA 223	Pathology & Rehabilitation of Orthopedic Conditions Lab	2
PTA 234	Pathology & Rehabilitation of Neurological & Pediatric Conditions	2
PTA 233	Pathology & Rehabilitation of Neurological & Pediatric Conditions Lab	2
PTA 202	Therapeutic Modalities in Physical Therapy	2
PTA 203	Therapeutic Modalities in Physical Therapy Lab	2
PTA 240	Clinical Practicum II	2
PTA 256	Pathology & Rehabilitation of Special Populations and Conditions	2
PTA 255	Pathology & Rehabilitation of Special Populations & Conditions Lab	1
PTA 260	Seminar in Physical Therapy	2
PTA 280	Clinical Practicum III	5
<b>Total Credits</b>		<b>64-67</b>

## Plumbing Technology

Installing water supply and waste disposal systems in residential, commercial, and highly complex industrial sites is the focus of the plumbing program. In addition to practical experiences, instruction is given in laws and codes, blueprint reading, drawing, special equipment and other related areas.

Progression in the Plumbing technology program is contingent upon achievement of a grade of "C" or better in each PLB and BRX course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

## Degrees

- Plumbing Technology - AAS (p. 311)

## Diplomas

- Plumber Mechanic - Diploma (p. 312)

## Certificates

- 1st Year Plumber Mechanic - Certificate (p. 312)
- 2nd Year Plumber Mechanic - Certificate (p. 312)
- Certified Backflow Tester - Certificate (p. 313)
- Finish Plumber - Certificate (p. 313)
- Maintenance Plumber - Certificate (p. 313)
- Plumber Estimator - Certificate (p. 313)
- Plumber's Helper - Certificate (p. 313)
- Rough Plumber - Certificate (p. 314)
- Service & Repair Plumber - Certificate (p. 314)

## Plumbing Technology - AAS

**Offered at:** Elizabethtown Community and Technical College

**Program Plan Number:** 4605037019

Progression in the Plumbing technology program is contingent upon achievement of a grade of "C" or better in each PLB and BRX course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Quantitative Reasoning		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Natural Sciences		3
Oral Communications		3
Subtotal		18
<b>Technical Courses</b>		
Digital Literacy Course		3
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 160	Plumbing Systems, DWV & Water	3
PLB 161	Rough-in of Plumbing Fixtures	2
PLB 250	Plumbing Appliances & Fixtures	3
PLB 251	Pumps and Water Heaters	2
Select one of the following two options:		3-4
<i>Option 1</i>		
PLB 260 & PLB 261	Service and Advanced Plumbing Lab	
<i>Option 2</i>		
PLB 265		
PLB 267		

PLB 269	Sewer and Drain Cleaning	
PLB 262	Backflow Prevention	3
PLB 270	License Preparation for Journeyman Exam	3
PLB 298	Practicum/Repairs & Maintenance	4
or PLB 299	Cooperative Education	
BRX 220	Blueprint Reading for Construction	3
BAS 120	Personal Finance	3
or EFM 100	Personal Financial Management	
WPP 200	Workplace Principles	1-3
or BAS 270	Business Employability Seminar	
ISX 101	Introduction to Industrial Safety	3
or ISX 100	Industrial Safety	
Subtotal		42-45
<b>Total Credits</b>		<b>60-63</b>

## Plumber Mechanic - Diploma

**Offered at:** Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 4605034019

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Heritage/Humanities	
<i>Area 2</i>		
	Quantitative Reasoning	3
	Subtotal	6
<b>Technical Courses</b>		
Digital Literacy Course or demonstrated competency		0-3
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 160	Plumbing Systems, DWV & Water	3
PLB 161	Rough-in of Plumbing Fixtures	2
PLB 250	Plumbing Appliances & Fixtures	3
PLB 251	Pumps and Water Heaters	2
Select one of the following two options:		3-4
<i>Option 1</i>		
PLB 260	Service	
PLB 261	Advanced Plumbing Lab	
<i>Option 2</i>		
PLB 265		
PLB 267		
PLB 269	Sewer and Drain Cleaning	
PLB 262	Backflow Prevention	3
PLB 270	License Preparation for Journeyman Exam	3

PLB 298	Practicum/Repairs & Maintenance	4
or PLB 299	Cooperative Education	
BRX 220	Blueprint Reading for Construction	3
EFM 100	Personal Financial Management	3
or BAS 120	Personal Finance	
WPP 200	Workplace Principles	1-3
or BAS 270	Business Employability Seminar	
ISX 101	Introduction to Industrial Safety	3
or ISX 100	Industrial Safety	
Subtotal		39-45
<b>Total Credits</b>		<b>45-51</b>

## 1st Year Plumber Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 4605033109

Course	Title	Credits
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 160	Plumbing Systems, DWV & Water	3
PLB 161	Rough-in of Plumbing Fixtures	2
PLB 250	Plumbing Appliances & Fixtures	3
PLB 251	Pumps and Water Heaters	2
<b>Total Credits</b>		<b>16</b>

## 2nd Year Plumber Mechanic - Certificate

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033119

Requires that the graduate pass a written test with 80% accuracy and a 3-part performance test.

Course	Title	Credits
<b>Required</b>		
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 160	Plumbing Systems, DWV & Water	3
PLB 161	Rough-in of Plumbing Fixtures	2

PLB 250	Plumbing Appliances & Fixtures	3
PLB 251	Pumps and Water Heaters	2
PLB 262	Backflow Prevention	3
Select one of the following two options:		5-7

*Option 1*

PLB 260	Service	
PLB 261	Advanced Plumbing Lab	
PLB 270	License Preparation for Journeyman Exam	

*Option 2*

PLB 260	Service	
PLB 265		
PLB 267		
PLB 269	Sewer and Drain Cleaning	

**Total Credits** 24-26

## Certified Backflow Tester - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033079

Requires that the graduate pass a written test with 80% accuracy and a 3-part performance test.

Course	Title	Credits
PLB 262	Backflow Prevention	3
<b>Total Credits</b>		<b>3</b>

## Finish Plumber - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033069

Course	Title	Credits
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 250	Plumbing Appliances & Fixtures	3
PLB 251	Pumps and Water Heaters	2
Electives (Technical Core)		6
<b>Total Credits</b>		<b>17</b>

## Maintenance Plumber - Certificate

**Offered at:** Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical

College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033049

Course	Title	Credits
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 115	Plumbing Applications	4
ISX 101 or ISX 100	Introduction to Industrial Safety Industrial Safety	3
<b>Total Credits</b>		<b>13</b>

## Plumber Estimator - Certificate

**Offered at:** Big Sandy Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College

**Program Plan Number:** 4605033099

Course	Title	Credits
<b>Required</b>		
Select one of the following two options:		6
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
Select one of the following two options:		5
PLB 160 & PLB 161	Plumbing Systems, DWV & Water and Rough-in of Plumbing Fixtures	
PLB 250 & PLB 251	Plumbing Appliances & Fixtures and Pumps and Water Heaters	
Select one of the following two options:		2-3
<i>Option 1</i>		
PLB 261	Advanced Plumbing Lab	
<i>Option 2</i>		
PLB 265		
PLB 267		
PLB 269	Sewer and Drain Cleaning	
PLB 270	License Preparation for Journeyman Exam	3
BRX 220	Blueprint Reading for Construction	3
WPP 200 or BAS 270	Workplace Principles Business Employability Seminar	1-3
Mathematics		3
Computer/Digital Literacy		0-3
<b>Total Credits</b>		<b>23-29</b>

## Plumber's Helper - Certificate

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Jefferson Community and Technical College, Maysville



Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033129

Course	Title	Credits
Select one of the following two options:		
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	6
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
Electives (Technical Core)		3
<b>Total Credits</b>		<b>9</b>

## Rough Plumber - Certificate

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033059

Course	Title	Credits
Select one of the following two options:		
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	6
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 160	Plumbing Systems, DWV & Water	3
PLB 161	Rough-in of Plumbing Fixtures	2
Electives (Technical Core)		6
<b>Total Credits</b>		<b>17</b>

## Service & Repair Plumber - Certificate

**Offered at:** Ashland Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Maysville Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 4605033089

Course	Title	Credits
<b>Required</b>		
Select one of the following two options:		
PLB 150 & PLB 151	Plumbing, Introduction to the Trade and Basic Plumbing Skills	6
PLB 100 & PLB 105	Basic Theory of Plumbing and Plumbing Principles	
PLB 160	Plumbing Systems, DWV & Water	3
PLB 161	Rough-in of Plumbing Fixtures	2
PLB 250	Plumbing Appliances & Fixtures	3
PLB 251	Pumps and Water Heaters	2
PLB 260	Service	2
Select one of the following two options:		2-3
<i>Option 1</i>		

PLB 261	Advanced Plumbing Lab
Option 2	
PLB 265	
PLB 267	
PLB 269	Sewer and Drain Cleaning
<b>Total Credits</b>	
<b>20-21</b>	

## Professional Studio Artist

The Professional Studio Artist (PSA) program prepares individuals for careers as independent studio artists and business owners, designers, performers and studio technicians. The curriculum offers technical, design, product development and performance classes in a variety of disciplines coupled with business, marketing and management courses. Class work will cover the history and traditions of music, basic studio development and technology requirements. Students will acquire the necessary technical proficiencies, creative problem solving, business skills, production processes and the knowledge to apply these aspects to careers in the music field.

The AAS degree program prepares a student to begin work as a professional bluegrass and traditional musician in the areas of performance, touring, studio recording, studio engineering, and song writing. The program also provides training in music business, management and event promotion while providing the student preparation to pursue a four-year degree. Program studies will offer in-depth mentoring and "real world" performance situations for solo, ensemble, and instrumental musicians as well as recording session set-up, sound enhancement and band management.

The diploma in Bluegrass & Traditional Studio Artist and the certificates in Audio Recording and Bluegrass & Traditional Music Fundamentals will afford students the opportunity to acquire training in the basics of performance, recording, songwriting and management. The diploma and certificate programs signify that the student possesses a basic understanding of the major components necessary for an entry-level career in Bluegrass and Traditional Music.

Documentation of digital literacy as defined by KCTCS is required prior to enrolling in the first PSA course.

## Degrees

- Professional Studio Artist-Bluegrass & Traditional Music - AAS (p. 314)

## Diplomas

- Bluegrass & Traditional Studio Artist - Diploma (p. 315)

## Certificates

- Audio Recording - Certificate (p. 315)
- Bluegrass & Traditional Music Fundamentals - Certificate (p. 316)

## Professional Studio Artist-Bluegrass & Traditional Music - AAS

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 5002017029

Course	Title	Credits
<b>General Education Courses:</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Any Higher-Level Quantitative Reasoning Course		
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
Heritage/Humanities		3
Natural Sciences		3-4
Social/Behavioral Sciences		3
General Education Courses Subtotal		18-19
<b>Technical Courses:</b>		
BAS 200	Small Business Management	3
ACT 101	Fundamentals of Accounting I	3
MUS 174	Theory for Nonmusic Majors	3
Select one of the following two options:		0-1
MUS 150	Class Instruction in Piano I	
Competency by audition		
PSM 101	Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin	3
PSM 105	Recording I	1
PSM 107	Songwriting I	1
PSM 112	Individual Stringed Instrument Instruction	4
Select one of the following two options:		0-1
PSM 113	Guitar I	
Competency by audition		
PSM 114	Bluegrass & Traditional Band/Ensemble	8
PSM 118	Bluegrass & Traditional Harmony/Part Singing	2
PSM 121	Bluegrass & Traditional Music History II: Evolution of Old Time, Folk and Early Bluegrass	3
PSM 125	Recording II	1
or PSM 117	Songwriting II	
PSM 231	Bluegrass & Traditional Music History III: Early Stringband & Country Music	3
PSM 235	Recording III	2
or PSM 217	Songwriting III	
PSM 245	Recording IV	2
or PSM 227	Songwriting IV	
PSA 240	Professional Artist Seminar	3
<i>Optional Electives</i>		
PSM 241	Bluegrass & Traditional Music History IV: The Masters & Their Music	
PSM 250	Field Experience/Production/Business	
<b>Total Credits</b>		<b>60-63</b>

## Bluegrass & Traditional Studio Artist - Diploma

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 5002014039

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
Select one or two of the following three options:		
Written/Oral Communications		
Humanities		
Heritage		
<i>Area 2</i>		
Select one or two of the following three options:		
Social/Behavioral Science		
Natural Science		
Quantitative Reasoning		
Subtotal		9
<b>Support Courses</b>		
BAS 200	Small Business Management	3
HUM 202	Survey of Appalachian Studies I	3
MUS 174	Theory for Nonmusic Majors	3
Subtotal		18
<b>Technical Courses</b>		
Digital Literacy or Digital Literacy Competency by exam		0-3
PSM 101	Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin	3
PSM 113	Guitar I (or Competency by audition)	0-1
PSM 105	Recording I	1
PSM 107	Songwriting I	1
PSM 112	Individual Stringed Instrument Instruction (x 4)	4
PSM 114	Bluegrass & Traditional Band/Ensemble (x 4)	8
PSM 241	Bluegrass & Traditional Music History IV: The Masters & Their Music (elective)	0-3
PSM 250	Field Experience/Production/Business (elective)	0-3
Subtotal		17-27
<b>Total Credits</b>		<b>35-45</b>

## Audio Recording - Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 5002013089

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>Required</b>		
BAS 200	Small Business Management	3
<b>Guided Electives</b>		
Select two of the following course options:		
PSM 101	Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin	
PSM 121	Bluegrass & Traditional Music History II: Evolution of Old Time, Folk and Early Bluegrass	
PSM 231	Bluegrass & Traditional Music History III: Early Stringband & Country Music	
PSM 241	Bluegrass & Traditional Music History IV: The Masters & Their Music	

MUS 100	Introduction to Music	
MUS 104	Introduction to Jazz History	
MUS 222	History and Sociology of Rock Music	
<b>Technical Electives</b>		
Select one of the following three options:		1
PSM 107	Songwriting I	
PSM 112	Individual Stringed Instrument Instruction	
PSM 113	Guitar I	
<b>Technical Courses</b>		
PSM 105	Recording I	1
PSM 125	Recording II	1
PSM 235	Recording III	2
PSM 245	Recording IV	2
<b>Total Credits</b>		<b>16</b>

## Bluegrass & Traditional Music Fundamentals - Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 5002013039

Course	Title	Credits
<b>Required</b>		
BAS 200	Small Business Management	3
<b>Technical Courses</b>		
PSM 112	Individual Stringed Instrument Instruction (x 2)	2
PSM 105	Recording I	1
PSM 107	Songwriting I	1
PSM 114	Bluegrass & Traditional Band/Ensemble (x 2)	4
PSM 101	Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin	3
PSM 113	Guitar I (or Competency by audition)	0-1
<b>Total Credits</b>		<b>14-15</b>

## Project Lead the Way

Project Lead the Way complements traditional college-preparatory academic studies with challenging career/technical studies, providing students with hands-on exposure to real-life engineering or biomedical challenges.

## Certificates

- Biomedical Science – PLTW - Certificate (p. 316)
- Engineering Related – PLTW - Certificate (p. 316)

## Biomedical Science – PLTW - Certificate

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5100003040

Course	Title	Credits
PLW 130	Principles of Biomedical Sciences	4
PLW 135	Principles of Human Body Systems	4
PLW 140	Medical Interventions	4
PLW 145	Biomedical Innovation	4
<b>Total Credits</b>		<b>16</b>

## Engineering Related – PLTW - Certificate

**Offered at:** Bluegrass Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1515993019

Course	Title	Credits
PLW 100	Introduction to Engineering Design	4
PLW 125	Principles of Engineering	4
PLW 150	Digital Electronics	4
Select one of the following three options:		4
PLW 200	Aerospace Engineering	
PLW 225	Civil Engineering and Architecture	
PLW 250	Computer Integrated Manufacturing	
PLW 295	Engineering Design and Development	4
<b>Total Credits</b>		<b>20</b>

## Radiography

This program prepares the individual to become a radiographer. The radiographer is prepared to administer ionizing radiation for medical diagnostic imaging purposes. Emphasis is on radiation protection and quality patient care. The curriculum is comprised of specialized courses in radiography with concentrated study in the basic sciences, mathematic and general education.

Students enrolled in the Radiography program must achieve a minimum grade of "C" in each Radiography course, required natural science course, and quantitative reasoning course.

Upon completion of the program, the graduate is eligible to take the American Registry of Radiologic Technologists (ARRT) registry examination to become a registered radiographer. Radiographers may find positions in hospitals, health clinics, and physicians' offices. The curriculum requires attendance in the summer session, fall and spring semesters. Note: CPR certificate must be obtained prior to enrolling in IMG 100 Radiography I (7 credit hours) or IMG 104 Introduction to Radiography (2 credit hours), IMG 106 Patient Care in Radiography (2 credit hours) and IMG 108 Radiographic Procedures I (4 credit hours); or DMI 110 Radiography Practicum I (1 credit hours) and certification must be kept current throughout the program. Note: Documentation of digital literacy as defined by KCTCS is required prior to admission to IMG courses.

Advanced Imaging in Radiography focuses on the areas of Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) in the Radiological Sciences. Didactic and clinical instruction prepares the technologist to work in the areas of CT and MRI in the healthcare setting and to sit for the Advanced Board Exams given by the American Registry

of Radiologic Technologists. These courses are offered for technologists who are currently registered by the American Registry of Radiologic Technologists in Radiography or the Nuclear Medicine Technology Certification Board in Nuclear Medicine, or students who have completed one year and are currently enrolled in an accredited radiography or nuclear medicine program, or by consent of the instructor. The core curriculum courses are intended to provide the student with an overall knowledge of advanced patient care and sectional anatomy. The CT and MRI tracks focus on the physics, instrumentation and imaging techniques of these modalities. The student may choose CT or MRI or both. Although these courses are organized in a hierarchical pattern, depending on the entry-level knowledge and the needs of the student, they may be taken out of sequence with consent of the instructor.

Note: Hours Exception (71-75 for the A.A.S.) approved by the KCTCS Board of Regents in June 2010.

## Degrees

- Radiography - AAS (p. 317)
  - Pathway 1 (p. 317)
  - Pathway 2 (p. 317)
  - Pathway 3 (p. 318)

## Certificates

- Advanced Imaging in Radiography - Certificate (p. 318)
  - Computed Tomography Track (p. 318)
  - Computed Tomography with Clinical Track (p. 318)
  - Magnetic Resonance Imaging Track (p. 319)

## Radiography - AAS

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5109117019

Students enrolled in the Radiography program must achieve a minimum grade of "C" in each Radiography course, required natural science course, and quantitative reasoning course.

Course	Title	Credits
<b>General Education</b>		
Social/Behavioral Sciences		3
Heritage/Humanities		3
ENG 101	Writing I	3
BIO 137	Human Anatomy and Physiology I with Laboratory	4
BIO 139	Human Anatomy and Physiology II with Laboratory	4
Select one of the following twelve options:		3-5
MAT 150	College Algebra	
MAT 160	Precalculus	
MAT 161	Statistics and Algebra	
MAT 165	Finite Mathematics and its Applications	

MAT 170	Brief Calculus with Applications	
MAT 171	Precalculus	
MAT 174	Calculus I	
MAT 175	Calculus I	
MAT 184	Calculus II	
MAT 185	Calculus II	
MAT 275	Calculus III	
STA 220	Statistics	
General Education Subtotal		20-22

*Students must complete one of the pathways listed below to complete the AAS requirements.*

## Pathway 1

**Offered at:** Bluegrass Community and Technical College, Hazard Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 510911701

Course	Title	Credits
<b>Required</b>		
General Education Subtotal		20-22
<b>Additional General Education</b>		
Select one of the following three options:		2-4
PHY 172	Physics for Health Sciences	
PHY 152	Introductory Physics II	
PHY 171	Applied Physics	
<b>Support Course</b>		
Select one of the following three options:		1-3
CLA 131	Medical Terminology from Greek and Latin	
AHS 115	Medical Terminology	
AHS 120	Medical Terminology	
<b>Technical Courses</b>		
IMG 100	Radiography I	7
IMG 101	Clinical I	4
IMG 110	Radiography II	7
IMG 111	Clinical II	4
IMG 201	Clinical III	3
IMG 210	Radiography IV	4
IMG 211	Clinical IV	6
IMG 220	Radiography V	4
IMG 221	Clinical V	6
<b>Total Credits</b>		<b>68-74</b>

## Pathway 2

**Offered at:** Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 510911702

Course	Title	Credits
<b>Required</b>		
General Education Subtotal		20-22

**Additional General Education**

PHY 152	Introductory Physics II	3-4
or PHY 171	Applied Physics	

**Technical Courses**

AHS 120	Medical Terminology	1-3
or AHS 115	Medical Terminology	
IMG 104	Introduction to Radiography	2
IMG 106	Patient Care in Radiography <sup>1</sup>	2
IMG 108	Radiographic Procedures I	4
IMG 109	Clinical Practice I	1
IMG 114	Image Production & Acquisition	2
IMG 116	Advanced Patient Care in Radiography	2
IMG 118	Radiographic Procedures II	4
IMG 119	Clinical Practice II	3
IMG 209	Clinical Practice III	3
IMG 214	Imaging Equipment	2
IMG 216	Basic Computed Tomography	1
IMG 219	Clinical Practice IV	6
IMG 224	Radiation Protection & Biology	2
IMG 226	Radiographic Pathology	1
IMG 228	Radiography Seminar	2
IMG 229	Clinical Practice V	6

**Total Credits** **67-72**

<sup>1</sup> NAA 100 Nursing Assistant Skills I (3 credit hours) may be substituted for IMG 106 Patient Care in Radiography (2 credit hours).

## Pathway 3

**Offered at:** Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510911703

Course	Title	Credits
<b>Required</b>		
General Education Subtotal		20-22
<b>Technical Courses</b>		
DMI 102	Medical Terminology for Radiography <sup>1</sup>	1
DMI 106	Patient Care and Ethics for Radiographers	3
DMI 108	Radiographic Positioning & Procedures I	4
DMI 110	Radiography Practicum I	1
DMI 112	Principles of X-ray Production, Exposure, and Image Production	3
DMI 115	Pharmacology for Radiographers	2
DMI 118	Radiographic Positioning and Procedures II	4
DMI 120	Radiography Practicum II	2
DMI 128	Radiographic Positioning and Procedures III	3
DMI 130	Radiography Practicum III	2
DMI 212	Radiographic Equipment and Quality Management	3
DMI 220	Radiography Practicum IV	4
DMI 222	Image Analysis	2
DMI 224	Radiation Protection and Biology for Radiographers	2

DMI 226	Radiographic Anatomy & Pathology	3
DMI 228	Seminars in Radiography	3
DMI 230	Radiography Practicum V	4

**Total Credits** **66-68**

<sup>1</sup> AHS 115 Medical Terminology (3 credit hours) or AHS 120 Medical Terminology (1 credit hours) may be substituted for DMI 102 Medical Terminology for Radiography (1 credit hours).

## Advanced Imaging in Radiography - Certificate

**Offered at:** Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5109113029

Course	Title	Credits
<b>Core</b>		
IMG 230	Sectional Anatomy for Advanced Medical Imaging	3
IMG 240	Pathology for Advanced Medical Imaging Modalities	3

**Tracks**

*Students must select one of the Tracks below to complete the certificate 6-10 requirements.*

**Total Credits** **12-16**

## Computed Tomography Track

**Offered at:** Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 510911301

Course	Title	Credits
Advanced Imaging in Radiography Core		6
IMG 250	Computed Tomography Physics & Instrumentation	3
IMG 260	Computed Tomography Imaging Procedures	3
<b>Total Credits</b>		<b>12</b>

## Computed Tomography with Clinical Track

**Offered at:** Jefferson Community and Technical College, Madisonville Community College, Somerset Community College

**Program Plan Number:** 510911302

Course	Title	Credits
Advanced Imaging in Radiography Core		6
IMG 250	Computed Tomography Physics & Instrumentation	3
IMG 260	Computed Tomography Imaging Procedures	3
IMG 285	Computed Tomography Clinical Practice I	4
<b>Total Credits</b>		<b>16</b>



## Magnetic Resonance Imaging Track

**Offered at:** Elizabethtown Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 510911304

Course	Title	Credits
	Advanced Imaging in Radiography Core	6
IMG 255	Magnetic Resonance Physics & Instrumentation	3
IMG 265	Magnetic Resonance Imaging Technology	3
IMG 295	Clinical Practice in Magnetic Resonance Imaging	4
<b>Total Credits</b>		<b>16</b>

## Respiratory Care

The Respiratory Care program prepares the graduate to take an active role in the maintenance and/or restoration of cardiopulmonary homeostasis. The curriculum includes intensive course work in the supporting sciences and general education areas. Classroom instruction is supplemented with learning experiences in the campus laboratory and in area clinical affiliates.

Progression in the Respiratory Care program is contingent upon the achievement of a grade of "C" in each Respiratory Care course.

Although hospitals employ the majority of respiratory therapists, other employers include home care providers, medical clinics, nursing homes, and industry. Graduates are qualified to take the National Board for Respiratory Care examinations to earn the Certified Respiratory Therapist (C.R.T.) credential and the Registered Respiratory Therapist (RRT) credential.

Note: The Kentucky Board for Respiratory Care may deny mandatory certification for convicted felons. Questions should be directed to the Kentucky Board for Respiratory Care.

Note: Digital literacy must be documented by competency exam or by completing a digital literacy course.

Note: Hours Exception (67-70 for the A.A.S.) approved by the KCTCS Board of Regents in June 2010.

## Degrees

- Respiratory Therapist - AAS (p. 319)

## Certificates

- Electrocardiographic and Cardiac Monitoring Technician Certificate (p. 320)
- Polysomnographic Technologist - Certificate (p. 320)

## Respiratory Therapist - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Somerset Community College, Southcentral Kentucky

Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5109087089

Progression in the Respiratory Care program is contingent upon the achievement of a grade of "C" in each Respiratory Care course.

Course	Title	Credits
BIO 137	Human Anatomy and Physiology I with Laboratory <sup>1</sup>	4
BIO 139	Human Anatomy and Physiology II with Laboratory <sup>1</sup>	4
Select one of the following three options:		3
MAT 150	College Algebra <sup>1</sup>	
MAT 110	Applied Mathematics <sup>2</sup>	
MAT 146	Contemporary College Mathematics <sup>1</sup>	
Select one of the following three options:		3
	Oral Communications <sup>1</sup>	
COM 181	Basic Public Speaking <sup>3</sup>	
COM 252	Introduction to Interpersonal Communication <sup>3</sup>	
Select one of the following three options:		3
	Social/Behavioral Sciences <sup>1</sup>	
SOC 101	Introduction to Sociology <sup>3</sup>	
PSY 110	General Psychology <sup>3</sup>	
ENG 101	Writing I <sup>1</sup>	3
	Heritage/Humanities <sup>1</sup>	3
Subtotal		23

### Technical Courses

**Select one of the following two options:** **43-45**

<i>Option 1: 45-46 credit hours</i>		
RCP 110	Cardiopulmonary Anatomy and Physiology	
RCP 120	Theory and Principles of Respiratory Care	
RCP 125	Cardiopulmonary Evaluation	
RCP 135	Respiratory Pharmacology	
RCP 150	Clinical Practice I	
RCP 175	Clinical Practice II	
RCP 180	Ventilatory Support	
RCP 190	Advanced Ventilatory Support	
RCP 200	Clinical Practice III	
RCP 204	Emergency & Special Procedures	
RCP 214	Advanced Diagnostic Procedures	
RCP 210	Cardiopulmonary Pathophysiology	
RCP 212	Neonatal/Pediatric Respiratory Care	
RCP 225	Clinical Practice IV	
RCP 228	Preventive and Long-Term Respiratory Care	
RCP 251	Respiratory Care Practice V	
<i>Option 2: 43 credit hours</i>		
RCP 110	Cardiopulmonary Anatomy and Physiology	
RCP 122	Fundamentals of Respiratory Care <sup>4</sup>	
RCP 140	Cardiopulmonary Assessment <sup>4</sup>	
RCP 135	Respiratory Pharmacology	
RCP 121	Respiratory Care Practice I <sup>4</sup>	
RCP 176	Respiratory Care Practice II <sup>4</sup>	

RCP 185	Introduction to Mechanical Ventilation <sup>4</sup>	
RCP 195	Patient-Ventilator System Management <sup>4</sup>	
RCP 201	Respiratory Care Practice III <sup>4</sup>	
RCP 240	Advanced Cardiopulmonary Evaluation <sup>4</sup>	
RCP 245	Advanced Cardiac Life Support <sup>4</sup>	
RCP 210	Cardiopulmonary Pathophysiology	
RCP 212	Neonatal/Pediatric Respiratory Care	
RCP 226	Respiratory Care Practice IV <sup>4</sup>	
RCP 228	Preventive and Long-Term Respiratory Care <sup>4</sup>	
RCP 251	Respiratory Care Practice V <sup>4</sup>	
RCP 260	Respiratory Care Seminar <sup>5</sup>	
Subtotal		43-45
<b>Total Credits</b>		<b>66-68</b>

<sup>1</sup> General Education Course<sup>2</sup> Not accepted at Elizabethtown CTC, Jefferson CTC, Madisonville CC and Southcentral Kentucky CTC for Respiratory Care degree program credit.<sup>3</sup> Courses required at Elizabethtown CTC, Jefferson CTC, Madisonville CC, and Southcentral Kentucky CTC.<sup>4</sup> RCP courses currently only offered and required at Bluegrass CTC for degree completion at that college.<sup>5</sup> BCTC requires RCP 260 Respiratory Care Seminar (1 credit hours).

## Electrocardiographic and Cardiac Monitoring Technician Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 5109083049

Course Required	Title	Credits
BIO 137	Human Anatomy and Physiology I with Laboratory <sup>1</sup>	4
BIO 139	Human Anatomy and Physiology II with Laboratory <sup>1</sup>	4
Select one of the following three options:		3
MAT 150	College Algebra <sup>1</sup>	
MAT 146	Contemporary College Mathematics <sup>1</sup>	
MAT 110	Applied Mathematics <sup>2</sup>	
Subtotal		11
<b>Technical Courses</b>		
RCP 110	Cardiopulmonary Anatomy and Physiology	3
Select one of the following two options:		2-4
RCP 125	Cardiopulmonary Evaluation	
RCP 140	Cardiopulmonary Assessment <sup>3</sup>	
Select one of the following two options:		1-2
RCP 150	Clinical Practice I <sup>2</sup>	
RCP 121	Respiratory Care Practice I <sup>3</sup>	

Subtotal	6-9
<b>Total Credits</b>	<b>17-20</b>

<sup>1</sup> General Education Course<sup>2</sup> Not accepted at Elizabethtown CTC, Jefferson CTC, Madisonville CC and Southcentral Kentucky CTC for Respiratory Care degree program credit.<sup>3</sup> RCP courses currently only offered and required at BCTC to complete certificate.

In addition, twenty (20) hours of documented clinical Electrocardiographic experience or documented Electrocardiographic & Cardiac Monitoring Competence is required.

## Polysomnographic Technologist - Certificate

**This program is not currently offered at a KCTCS College.**

**Program Plan Number:** 5109083069

Course Required	Title	Credits
BIO 137	Human Anatomy and Physiology I with Laboratory <sup>1</sup>	4
BIO 139	Human Anatomy and Physiology II with Laboratory <sup>1</sup>	4
ENG 101	Writing I	3
Select one of the following three options:		3
MAT 150	College Algebra <sup>1</sup>	
MAT 146	Contemporary College Mathematics <sup>1</sup>	
MAT 110	Applied Mathematics	
AHS 115	Medical Terminology	3
Subtotal		17
<b>Technical Courses</b>		
PSG 100	Introduction to Polysomnography	2
PSG 110	Polysomnography Level I	3
PSG 111	Polysomnography Lab I	1
PSG 115	Polysomnography Practice I	3
PSG 130	Polysomnography Level II	3
PSG 131	Polysomnography Lab II	1
PSG 133	Pathologies of Sleep and Related Disorders	3
PSG 135	Polysomnography Practice II	3
Subtotal		19
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> General Education Course

## Supply Chain Management

The Supply Chain Management AAS degree incorporates knowledge of the field of logistics, supply chain management, quality management, lean concepts and application, business and operations management, critical communication skills, and digital literacy required for successful employment in the logistics industry. The program will prepare students to perform functions in the modern logistics and supply chain

management environment as well as give the preparation to obtain two national industry credentials (CLA and CLT) as a result.

The Supply Chain Specialist Certificate program prepares students for skilled entry-level positions in the field of Logistics. Graduates will also obtain two national industry credentials (CLA and CLT) through successful completion of coursework and a passing score on the respective tests.

The Logistics Quality Technician Certificate program prepares students with quality management knowledge and strategic concepts of planning as a proactive catalyst for organizational and quality improvement in the logistics industry. Graduates will also obtain two national industry credentials (CLA and CLT) through successful completion of coursework and a passing score on the respective tests.

The Logistics Operations Certificate program provides students with knowledge in business, operations, and project management leading to a variety of positions in the logistics industry. Graduates will also obtain two national industry credentials (CLA and CLT) through successful completion of coursework and a passing score on the respective tests.

## Degrees

- Supply Chain Management - AAS (p. 321)

## Certificates

- Logistics Operations - Certificate (p. 321)
- Logistics Quality Technician - Certificate (p. 321)
- Supply Chain Specialist - Certificate (p. 322)

## Supply Chain Management - AAS

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5202037029

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
Select one of the following three options:		3
ECO 101	Contemporary Economic Issues	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher Quantitative Reasoning		
Natural Sciences		3
Heritage/Humanities		3
Subtotal		18
<b>Technical Courses</b>		
CIT 105	Introduction to Computers	3
OST 235	Business Communications Technology	3
or ENG 102	Writing II	
BAS 160	Introduction to Business	3
BAS 256	International Business	3

BAS 288	Personal and Organizational Leadership	3
BAS 289	Operations Management	3
or MGT 256	Operations Management	
LOM 100	Introduction to Logistics Management	3
LOM 101	Transportation Management	3
LOM 102	Supply Chain Management	3
LOM 202	Applied Supply Chain Management	3
LOM 210	Lean for Logistics	3
QMS 101	Introduction to Quality Systems	3
or MGT 210	Managing Quality	
BAS 201	Customer Service Improvement Skills	3
Select one of the following three options:		3
MGT 258	Project Management	
QMS 212	Project Management	
LOM 180	Project Management	
COE 199	Cooperative Education: (Topic)	1-3
Subtotal		43-45
<b>Total Credits</b>		<b>61-63</b>

## Logistics Operations - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 5202033079

Course	Title	Credits
CIT 105	Introduction to Computers	3
LOM 100	Introduction to Logistics Management	3
LOM 102	Supply Chain Management	3
LOM 210	Lean for Logistics	3
BAS 289	Operations Management	3
or MGT 256	Operations Management	
Select one of the following three options:		3
LOM 180	Project Management	
MGT 258	Project Management	
QMS 212	Project Management	
OST 235	Business Communications Technology	3
or COM 252	Introduction to Interpersonal Communication	
<b>Total Credits</b>		<b>21</b>

## Logistics Quality Technician - Certificate

**Offered at:** Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 5202033069

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
LOM 100	Introduction to Logistics Management	3
LOM 102	Supply Chain Management	3
LOM 210	Lean for Logistics	3
QMS 101	Introduction to Quality Systems	3
or MGT 210	Managing Quality	
Select one of the following three options:		3
LOM 180	Project Management	
QMS 212	Project Management	
MGT 258	Project Management	
OST 235	Business Communications Technology	3
or COM 252	Introduction to Interpersonal Communication	
<b>Total Credits</b>		<b>21</b>

## Supply Chain Specialist - Certificate

**Offered at:** Bluegrass Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Madisonville Community College

**Program Plan Number:** 5202033059

Course	Title	Credits
CIT 105	Introduction to Computers	3
LOM 100	Introduction to Logistics Management	3
LOM 102	Supply Chain Management	3
LOM 210	Lean for Logistics	3
OST 235	Business Communications Technology	3
or COM 252	Introduction to Interpersonal Communication	
<b>Total Credits</b>		<b>15</b>

## Surgical First Assisting

The Surgical First Assistant provides aid in exposure, hemostasis, and other technical functions that will help the surgeon carry out a safe operation with optimal results for the patient. This role will vary considerably with the surgical operation, specialty area, and type of facility. Clinical skills performed under direct supervision of the surgeon include the following: positioning the patient, preparing the skin, providing visualization of the operative site, utilizing appropriate techniques to assist with hemostasis, participating in volume replacement or auto transfusion techniques as appropriate, utilizing appropriate techniques in the closure of body planes, selecting and applying appropriate wound dressings and providing assistance in securing drainage system to tissue.

This program provides clinical experience built upon classroom instruction in the basic sciences, patient care, aseptic techniques and surgical procedures.

Students enrolled in the Surgical First Assistant Program are required to achieve a minimum grade of "C" in each Surgical First Assistant course.

Graduates from the program are eligible to take the certifying exams offered by the National Surgical Assistant Association (CSA) or the National Board of Surgical Technologists and Surgical Assistants (CSFA).

## Degrees

- Surgical First Assisting - AAS (p. 322)

## Certificates

- Surgical First Assisting - Certificate (p. 323)

## Surgical First Assisting - AAS

**Offered at:** Madisonville Community College

**Program Plan Number:** 5109097039

**May be available completely online. Please check with your academic advisor.**

Students enrolled in the Surgical First Assistant Program are required to achieve a minimum grade of "C" in each Surgical First Assistant course.

Course	Title	Credits
<b>General Education</b>		
BIO 135	Basic Anatomy and Physiology with Laboratory <sup>1</sup>	4
ENG 101	Writing I	3
MAT 150	College Algebra	3
or MAT 110	Applied Mathematics	
Heritage/Humanities		3
Social/Behavioral Sciences course		3
Subtotal		16
<b>Technical Courses</b>		
Digital Literacy course or demonstrated competency <sup>2</sup>		0-3
SUR 109	Introduction to Surgical Technology	3
SUR 110	Surgical Technology Fundamentals	9
SUR 102	Surgical Technology Fundamentals Lab	3
SUR 125	Surgical Technology Skills Practicum I	2-3
SUR 202	Surgical Technology Advanced Theory	11
SUR 280	Surgical Anatomy	5
SUR 284	Principles of Surgical Assisting	3
SUR 295	Surgical First Assistant Clinical	1
SUR 282	Perioperative Bioscience	3
SUR 296	Surgical First Assistant Practicum	3
SUR 297	Surgical First Assistant Practicum II	1
Subtotal		44-48
<b>Total Credits</b>		<b>60-64</b>

<sup>1</sup> BIO 137 Human Anatomy and Physiology I with Laboratory (4 credit hours) & BIO 139 Human Anatomy and Physiology II with Laboratory (4 credit hours) may be substituted for BIO 135 Basic Anatomy and Physiology with Laboratory (4 credit hours).

<sup>2</sup> Digital Literacy Course - 3 credit hours or demonstrated competency - 0 credit hours.

For program admission, student must be a certified Surgical Technologist or an RN with operating room experience or consent of instructor.

For program admission, CPR or BLS certificate must be obtained prior to enrolling in the course; certification must be kept current throughout the program.

## Surgical First Assisting - Certificate

**Offered at:** Madisonville Community College

**Program Plan Number:** 5109093020

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
SUR 280	Surgical Anatomy	5
SUR 282	Perioperative Bioscience	3
SUR 284	Principles of Surgical Assisting	3
SUR 295	Surgical First Assistant Clinical	1
SUR 296	Surgical First Assistant Practicum	3
SUR 297	Surgical First Assistant Practicum II	1
<b>Total Credits</b>		<b>16</b>

CPR or BLS certificate must also be obtained prior to enrolling in the program; certification must be kept current throughout the program.

For program admission, student must be a certified Surgical Technologist or an RN with operating room experience. Student must provide current documentation of certificate/licensure.

## Surgical Technology

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings such as medical offices, out-patient clinics, and the operating room.

The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual works under the supervision of a surgeon to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety.

A surgical technologist possesses expertise in the theory and application of sterile and aseptic techniques and combines the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

This program provides clinical experience built upon classroom instruction in the basic sciences, patient care, aseptic techniques and surgical procedures. Each college admits students for their Surgical Technology program, respectively, based on the selective-admission criteria of the institution.

Students enrolled in the Surgical Technology Program are required to achieve a minimum grade of "C" in each course required for the credential. Students who withdraw from or earn less than a "C" in any course with a Surgical Technology prefix will be dropped from the Surgical Technology program and must reapply for admission.

CPR (for Healthcare Providers) course must be completed prior to the first surgical technology skills practicum course and must remain current throughout the Surgical Technology program.

Students who have completed program requirements must sit for the certifying examination offered by the

National Board on Certification for Surgical Technology and Surgical Assisting (NBSTSA)  
3 West Dry Creek Circle, Suite 100  
Littleton, CO 80120

Phone: (800) 707 0057  
[www.nbstsa.org](http://www.nbstsa.org) (<http://www.nbstsa.org>).

The following programs hold accreditation from the

Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
9355-113th St N, #7709  
Seminole, Florida 33775

Phone: (727) 210 2350;

[mail@caahep.org](mailto:mail@caahep.org)

[www.caahep.org](http://www.caahep.org) (<http://www.caahep.org>) who accredits programs upon the recommendation of the

Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA)  
6 West Dry Creek Circle, Suite 110  
Littleton, CO 80120

Phone: (303) 694 9262;

[arcstsa.org](https://arcstsa.org/) (<https://arcstsa.org/>)

- Ashland Community and Technical College,
- Bluegrass Community and Technical College,
- Hazard Community and Technical College,
- Jefferson Community and Technical College,
- Madisonville Community College,
- Owensboro Community and Technical College,
- Somerset Community College,
- Southcentral Kentucky Community and Technical College,
- Southeast Kentucky Community and Technical College, and
- West Kentucky Community and Technical College.

## Degrees

- Surgical Technology - AAS (p. 323)
  - Surgical Technology- Pathway # 1 (p. 324)
  - Surgical Technology- Pathway # 2 (p. 324)

## Diplomas

- Surgical Technologist - Diploma (p. 324)

## Surgical Technology - AAS

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky



Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5109097059

Students enrolled in the Surgical Technology Program are required to achieve a minimum grade of "C" in each course required for the credential. Students who withdraw from or earn less than a "C" in any course with a Surgical Technology prefix will be dropped from the Surgical Technology program and must reapply for admission.

Course	Title	Credits
Select the appropriate Anatomy courses for each Pathway		4-8
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory	
BIO 135	Basic Anatomy and Physiology with Laboratory (Only available for Pathway 2 students.)	
ENG 101	Writing I	3
Select one of the following options		3
MAT 110	Applied Mathematics	
Higher Level Quantitative Reasoning Course		
Social/Behavioral Sciences		3
Heritage/Humanities Course		3
Subtotal		16-20

*Students must complete one of the pathways listed below to complete the AAS requirements.*

## Surgical Technology- Pathway # 1

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Hazard Community and Technical College, Jefferson Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 510909710

Course	Title	Credits
General Education Subtotal		20
<b>Technical Courses</b>		
Digital Literacy <sup>1</sup>		0-3
Select one of the following three options:		3
AHS 115	Medical Terminology	
CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
Select one of the following three options:		3-4
BIO 118	Microbes and Society	
BIO 225	Medical Microbiology with Laboratory	
BIO 226	Principles of Microbiology	
SUR 100	Surgical Technology Fundamentals Theory	12
SUR 102	Surgical Technology Fundamentals Lab	3
SUR 202	Surgical Technology Advanced Theory	11
<b>Practicum Courses</b>		
A total of 10 hours must be completed from the following practicum courses:		10

SUR 125	Surgical Technology Skills Practicum I	
SUR 201	Surgical Technology Skills Practicum II	
SUR 2011 & SUR 2012	Surgical Skills I and Surgical Skills II	
SUR 275	Surgical Technology Advanced Practicum	
<b>Total Credits</b>		<b>62-66</b>

## Surgical Technology- Pathway # 2

**Offered at:** Hopkinsville Community College, Madisonville Community College, Owensboro Community and Technical College

**Program Plan Number:** 510909711

Course	Title	Credits
General Education Subtotal		16-20
<b>Technical Courses</b>		
Digital Literacy		3
Select one of the following three options:		3
AHS 115	Medical Terminology	
CLA 131	Medical Terminology from Greek and Latin	
MIT 103	Medical Office Terminology	
Select one of the following two options:		12
SUR 100	Surgical Technology Fundamentals Theory	
SUR 109 & SUR 110	Introduction to Surgical Technology and Surgical Technology Fundamentals	
SUR 117	Pathophysiology for Surgical Technologist	3
SUR 102	Surgical Technology Fundamentals Lab	3
SUR 202	Surgical Technology Advanced Theory	11
<b>Practicum Courses</b>		
A total of 10 hours must be completed from the following practicum courses:		10
SUR 125	Surgical Technology Skills Practicum I	
SUR 201	Surgical Technology Skills Practicum II	
SUR 275	Surgical Technology Advanced Practicum	
<b>Total Credits</b>		<b>61-65</b>

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a digital literacy course.

**NOTE:** CPR Certification must be obtained prior to enrolling in the first Surgical Technology skills practicum courses and must remain current throughout enrollment in the Surgical Technology program.

## Surgical Technologist - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Jefferson Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5109094019

Course	Title	Credits
<b>General Education</b>		
<i>Area 1</i>		
ENG 101	Writing I	3
<i>Area 2</i>		

Select one of the following two options: 4-8

BIO 135	Basic Anatomy and Physiology with Laboratory
BIO 137 & BIO 139	Human Anatomy and Physiology I with Laboratory and Human Anatomy and Physiology II with Laboratory

Subtotal 7-11

#### Technical Courses

Digital Literacy Course or demonstrated competency <sup>1</sup> 0-3

Select one of the following three options: 3

CLA 131	Medical Terminology from Greek and Latin
AHS 115	Medical Terminology
MIT 103	Medical Office Terminology

Select one of the following two options: 12

SUR 100	Surgical Technology Fundamentals Theory
SUR 109 & SUR 110	Introduction to Surgical Technology and Surgical Technology Fundamentals <sup>2</sup>

Select one of the following three options: 3-4

BIO 225	Medical Microbiology with Laboratory
BIO 226	Principles of Microbiology
BIO 118	Microbes and Society

SUR 102 3

SUR 202 11

#### Practicum Courses

Select ten credit hours of the following three options: 10

SUR 125	Surgical Technology Skills Practicum I
SUR 201	Surgical Technology Skills Practicum II
SUR 275	Surgical Technology Advanced Practicum

Subtotal 42-46

**Total Credits 49-57**

<sup>1</sup> Digital literacy must be demonstrated either by competency exam or by completing a digital literacy course.

<sup>2</sup> Students successfully completing SUR 109 Introduction to Surgical Technology (3 credit hours) and SUR 110 Surgical Technology Fundamentals (9 credit hours) are not required to take a microbiology course for the diploma option.

## Elective(s)

Course	Title	Credits
MAI 200	Pathophysiology for the Medical Assistant	3
BAS 120	Personal Finance	3
MNA 100 or NAA 100	Medicaid Nurse Aide Nursing Assistant Skills I	3

Note: CPR certificate must be obtained prior to enrolling in the first Surgical Technology course and certification must be kept current throughout the Program.

## Surveying and Mapping Technology

The curriculum is arranged for students to gain employment in surveying and mapping. It allows students to gain the educational requirements to sit for the licensing exams in the state of Kentucky. Classes emphasize solving problems encountered in the field of Surveying & Mapping Technology. Students perform routine topographical, boundary and other

mapping/surveying projects, as well as Global Positioning (GPS) surveys. Students establish essential data, keep notes, develop preliminary sketches, and prepare working drawings, profile and section maps, volume calculations, and topographic maps. Students use computer mapping and coordinate geometry software to accomplish these tasks.

## Degrees

- Surveying and Mapping Technology - AAS (p. 325)

## Diplomas

- Surveying Technician III - Diploma (p. 325)

## Certificates

- Surveying Technician I - Certificate (p. 326)
- Surveying Technician II - Certificate (p. 326)

## Surveying and Mapping Technology - AAS

This program is not currently offered at a KCTCS College.

Program Plan Number: 1511027029

Course	Title	Credits
<b>Required General Education</b>		
ENG 101	Writing I	3
Humanities		3
Select one of the following two options:		3
MAT 116	Technical Mathematics	
Higher Level Quantitative Reasoning Course		
Natural Sciences		3
Social/Behavioral Sciences		3
Subtotal		15
<b>Required Technical Courses</b>		
Digital Literacy Course		3
COM 181	Basic Public Speaking	3
SMT 110	Principles of Surveying	3
SMT 130	Land Surveying Graphics	3
SMT 160	Construction Surveying	3
SMT 210	Advanced Surveying Measurement	3
SMT 220	Surveying Lab	3
SMT 230	Land Boundary Location	3
SMT 250	Mine Surveying	3
SMT 270	Professional Ethics & Conduct for Land Surveyors	3
SMT 290	Boundary Law	3
Technical Electives Approved by Program Coordinator		12
Subtotal		45
<b>Total Credits</b>		<b>60</b>

## Surveying Technician III - Diploma

This program is not currently offered at a KCTCS College.

Program Plan Number: 1511024029

Course	Title	Credits
<b>Required General Education</b>		
ENG 101	Writing I	3
MAT 116	Technical Mathematics	3
Subtotal		6
<b>Required Technical Courses</b>		
Digital Literacy Course		3
COM 181	Basic Public Speaking	3
SMT 110	Principles of Surveying	3
SMT 130	Land Surveying Graphics	3
SMT 160	Construction Surveying	3
SMT 210	Advanced Surveying Measurement	3
SMT 220	Surveying Lab	3
SMT 230	Land Boundary Location	3
Technical Electives Approved by Program Coordinator		9
Subtotal		33
<b>Total Credits</b>		<b>39</b>

## Surveying Technician I - Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 1511023059

Course	Title	Credits
Digital Literacy Course		3
SMT 110	Principles of Surveying	3
or SMT 130	Land Surveying Graphics	
<b>Total Credits</b>		<b>6</b>

## Surveying Technician II - Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 1511023069

Course	Title	Credits
Digital Literacy Course		3
SMT 110	Principles of Surveying	3
SMT 130	Land Surveying Graphics	3
Technical Electives Approved by Program Coordinator		3
<b>Total Credits</b>		<b>12</b>

## Teaching English to Speakers of Other Languages (TESOL)

This certificate program prepares individuals for entry and advancement within the profession of TESOL as English language teachers. Through nineteen (19) credit hours, students will be introduced to various concepts of what teaching English to speakers of other languages entails. Courses within the program cover how to incorporate dynamic and interactive teaching methods into the lesson plans, how adults acquire a second language, the characteristics of English language learners and factors impacting learning outcomes and teaching best practices with the inclusion of classroom observations and hands-on experience. Students who successfully complete this certification program are eligible and certified to domestically teach English to

speakers of other languages at community organizations, such as Kentucky Refugee Ministries, or internationally teach English to speakers of other languages via programs, such as TaLK.

## Certificates

- Teaching English to Speakers of Other Languages (TESOL)-Certificate (p. 326)

## Teaching English to Speakers of Other Languages (TESOL)- Certificate

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 1315013029

Course	Title	Credits
ANT 160	Cultural Diversity in the Modern World	3
COM 254	Introduction to Intercultural Communication	3
TES 100	Introduction to Teaching English to Speakers of Other Languages (TESOL)	3
TES 101	Second Language Literacy & Acquisition	3
TES 102	TESOL Methods & Practice	3
TES 103	Second Language Teaching w/Lab	3
<b>Total Credits</b>		<b>18</b>

## Technical Theatre

The Technical Theatre Certificate will prepare students for an entry level position as a theatre technician and/or advanced technical theatre studies.

## Certificates

- Technical Theatre - Certificate (p. 326)

## Technical Theatre - Certificate

**Offered at:** Owensboro Community and Technical College

**Program Plan Number:** 5005013019

Course	Title	Credits
<b>General Education Courses</b>		
THA 101	Introduction to Theatre: Principles and Practice	3
Select one of the following three options:		3
COM 181	Basic Public Speaking	
COM 252	Introduction to Interpersonal Communication	
ENG 101	Writing I	
<b>Technical Core</b>		
THA 150	Fundamentals of Production	3
THA 250	Stage Electrics	3
THA 260	Stagecraft	3
THA 141	Costuming & Make-up for the Stage	3
<b>Technical Electives</b>		
Select one of the following seven options:		1-5
ART 113	3-Dimensional Design	
ELT 110	Circuits I	

WLD 152	Basic Welding B
CAD 102	Drafting Fundamentals
CAR 126 & CAR 127	Intro to Construction and Intro to Construction - Lab
THA 192	Production Practicum
Other courses as approved by the program coordinator	

**Total Credits** 19-23

## Telehealth Technician Associate

Telemedicine is the provision of health care over a distance. This occurs through live interactive (synchronous) and store and forward (asynchronous) telemedicine using high-speed communication links, videoconference equipment and other communication devices, medical peripheral devices such as electronic stethoscopes to facilitate secure connectivity between patients and providers.

### Certificates

- Telehealth Technician Associate - Certificate (p. 327)

## Telehealth Technician Associate - Certificate

**Offered at:** Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 5107073069

Course	Title	Credits
HST 102	Health Care Delivery & Management	3
HST 103	Health Care Communication	2
HST 104	Health Care Basic Skills I with Clinical	3.5
AHS 115	Medical Terminology	3
TLH 200	Telehealth Patient Care	4.5
<b>Total Credits</b>		<b>16</b>

## Truck Driver Training

Prepares students to drive tractor trailer trucks, apply their knowledge of commercial driving regulations, prepare receipts for loads, maintain truck logs according to state and federal regulations, load and unload trucks, inspect trucks and their equipment. The Transportation Specialist certificate will also include the operation of basic heavy equipment in addition to the routine and minor maintenance and repairs on diesel engines.

### Certificates

- Tractor Trailer, CDLA I - Certificate (p. 327)
- Tractor Trailer, CDLA II - Certificate (p. 327)

## Tractor Trailer, CDLA I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College,

Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4902053010

Course	Title	Credits
TRU 100	Truck Driving	6
<b>Total Credits</b>		<b>6</b>

## Tractor Trailer, CDLA II - Certificate

**Offered at:** Bluegrass Community and Technical College, Jefferson Community and Technical College

**Program Plan Number:** 4902053029

Course	Title	Credits
TNT 110	Basic Operations	3
TNT 120	Safe Operating Practices	3
TNT 210	Advanced Operating Practices	1
TNT 220	Vehicle Systems and Reporting Malfunction	3
TNT 250	Internship	4
<b>Total Credits</b>		<b>14</b>

## Unmanned Systems Technology

The rapidly growing field of Unmanned Systems Technology (UST) enables students to gain knowledge and skills as an advanced drone operator, first responder specialist, unmanned systems technician, or GIS/unmanned Systems Specialist. This program prepares students for entry and advancement within the unmanned systems technology workforce (aerial, land, and water vehicles/robotics) field and to pilot unmanned aircrafts for private and commercial industries. The program also requires students to make reasonable predictions of how the current unmanned systems technology will integrate into existing careers.

### Degrees

- Unmanned Systems Technology - AAS (p. 328)
  - Advanced Drone Operator Track (p. 328)
  - First Responder Specialist Track (p. 328)
- Unmanned Systems Technician Track (p. 329)
- GIS/Unmanned Systems Specialist Track (p. 329)

### Certificates

- Basic Drone Operator Certificate (p. 329)
- Drone Operator Specialist - Certificate (p. 329)
- First Responder Specialist - Certificate (p. 329)
- GIS/Unmanned Systems Specialist - Certificate (p. 329)
- Remote Drone Pilot - Certificate (p. 330)
- Visual Observer - Certificate (p. 330)

### UST Electives

Course	Title	Credits
CAD 100	Introduction to Computer Aided Design	3
CIT 105	Introduction to Computers	3

CIT 111	Computer Hardware and Software	4
CIT 125	Intro to Digital Maps	3
CIT 160	Intro to Networking Concepts	4
CIT 225	GIS Data Analysis	3
CRJ 100	Introduction to Criminal Justice	3
DPT 100	Introduction to 3D Printing Technology	3
DPT 102	3D Printing Technology Fundamentals	2
DPT 150	Introduction to Engineering Mechanics for 3D Printing	3
DPT 280	Special Projects for 3D Printing, Level I	1
EET 270	Electrical Motor Controls I	2
EET 271	Electrical Motor Controls I Lab	2
ELT 110	Circuits I	5
GIS 145	Remote Sensing	3
GIS 255	Geospatial Programming	3
GIS 260	Geospatial Web Mapping	3
UST 100	Intro to Unmanned Systems Technology	3
UST 102	UST Career Exploration	1
UST 105	Unmanned Systems Safety and Regulations	3
UST 107	Commercial Drone Operations	3
UST 170	Drone Media Applications	3
UST 200	Drone Fabrication and Repair	4
UST 210	Visual Observer Operations	2
UST 211	Night Time VO Operations	2
UST 220	First Responder Applications	2
UST 221	Crew Resource Management	1
UST 290	UST Flight Mastery	1-3
UST 291	Selective Topics in UST	1-3
UST 295	UST Learning Experience	1-6

### Other General Education courses that can be taken as UST electives:

Course	Title	Credits
ECO 201	Principles of Microeconomics	3
ENG 102	Writing II	3
MAT 155	Trigonometry	3
PHY 151	Introductory Physics I	3
STA 220	Statistics	3

Any course from the UST electives list can be used as an elective if not already required in the certificate.

Other courses may be approved as UST Electives as approved by the program coordinator.

## Unmanned Systems Technology - AAS

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 4706097019

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
<b>General Education Core</b>		
ENG 101	Writing I	3
COM 181	Basic Public Speaking	3
or COM 252	Introduction to Interpersonal Communication	
MAT 116	Technical Mathematics (or higher) <sup>1</sup>	3
POL 101	American Government	3
Natural Sciences <sup>2</sup>		3
Heritage/Humanities		3
Subtotal		18
<b>Technical Core</b>		
Select one of the following three options:		3
CIT 105	Introduction to Computers	
DPT 100	Introduction to 3D Printing Technology	
CAD 100	Introduction to Computer Aided Design	
BAS 267	Introduction to Business Law	3
BAS 282	Principles of Marketing	3
UST 100	Intro to Unmanned Systems Technology	3
UST 105	Unmanned Systems Safety and Regulations	3
UST 107	Commercial Drone Operations	3
UST 299	UST Capstone Studies	1
Subtotal		19
General Education and Technical Core Subtotal		37
<i>Students must complete one of the tracks listed below to complete the AAS requirements.</i>		

<sup>1</sup> MAT 150 College Algebra (3 credit hours) preferred.

<sup>2</sup> Physics preferred except PHY 160 Physics and Astronomy for Elementary Teachers (3 credit hours).

## Advanced Drone Operator Track

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 470609701

Course	Title	Credits
General Education and Technical Core Subtotal		37
CIT 125	Intro to Digital Maps	3
UST 221	Crew Resource Management	1
UST 290	UST Flight Mastery	2
UST 295	UST Learning Experience	3
UST Electives		14
<b>Total Credits</b>		<b>60</b>

## First Responder Specialist Track

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 470609702

Course	Title	Credits
General Education and Technical Core Subtotal		37
CIT 125	Intro to Digital Maps	3
GIS 145	Remote Sensing	3
HSM 110	Introduction to Emergency Management	3



UST 220	First Responder Applications	2
UST 221	Crew Resource Management	1
UST Electives		11
<b>Total Credits</b>		<b>60</b>

## Unmanned Systems Technician Track

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 470609703

Course	Title	Credits
General Education and Technical Core Subtotal		37
CIT 111	Computer Hardware and Software	4
CIT 160	Intro to Networking Concepts	4
DPT 102	3D Printing Technology Fundamentals	2
UST 200	Drone Fabrication and Repair	4
UST Electives <sup>1</sup>		9
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> Take CAD 100 Introduction to Computer Aided Design (3 credit hours) or CIT 105 Introduction to Computers (3 credit hours) if not taken in core.

## GIS/Unmanned Systems Specialist Track

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 470609704

Course	Title	Credits
General Education and Technical Core Subtotal		37
CIT 125	Intro to Digital Maps	3
CIT 225	GIS Data Analysis	3
GIS 145	Remote Sensing	3
GIS 255	Geospatial Programming	3
GIS 260	Geospatial Web Mapping	3
UST Electives		8
<b>Total Credits</b>		<b>60</b>

## Basic Drone Operator Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 4706093069

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
UST 100	Intro to Unmanned Systems Technology	3
UST 107	Commercial Drone Operations	3
UST Electives		6
<b>Total Credits</b>		<b>12</b>

## Drone Operator Specialist - Certificate

**Offered at:** Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 4706093039

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
or DPT 100	Introduction to 3D Printing Technology	
UST 100	Intro to Unmanned Systems Technology	3
UST 105	Unmanned Systems Safety and Regulations	3
UST 107	Commercial Drone Operations	3
UST 290	UST Flight Mastery	3
UST Electives		3
<b>Total Credits</b>		<b>18</b>

## First Responder Specialist - Certificate

**Offered at:** Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 4706093049

**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
CIT 105	Introduction to Computers	3
or DPT 100	Introduction to 3D Printing Technology	
CIT 125	Intro to Digital Maps	3
GIS 145	Remote Sensing	3
HSM 110	Introduction to Emergency Management	3
UST 105	Unmanned Systems Safety and Regulations	3
UST 107	Commercial Drone Operations	3
UST 220	First Responder Applications	2
UST 221	Crew Resource Management	1
UST Electives		3
<b>Total Credits</b>		<b>24</b>

## GIS/Unmanned Systems Specialist - Certificate

**Offered at:** Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 4706093059

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
CIT 105	Introduction to Computers	3
or DPT 100	Introduction to 3D Printing Technology	
CIT 225	GIS Data Analysis	3
GIS 145	Remote Sensing	3
UST 100	Intro to Unmanned Systems Technology	3
UST 105	Unmanned Systems Safety and Regulations	3
UST 107	Commercial Drone Operations	3
CIT 125	Intro to Digital Maps	3
<b>Total Credits</b>		<b>21</b>

## Remote Drone Pilot - Certificate

**Offered at:** Hazard Community and Technical College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College

**Program Plan Number:** 4706093029

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
UST 107	Commercial Drone Operations	3
<b>Total Credits</b>		<b>3</b>

## Visual Observer - Certificate

**Offered at:** Hazard Community and Technical College

**Program Plan Number:** 4706093079

May be available completely online. Please check with your academic advisor.

Course	Title	Credits
UST 100	Intro to Unmanned Systems Technology	3
UST 105	Unmanned Systems Safety and Regulations	3
UST 210	Visual Observer Operations	2
UST 211	Night Time VO Operations	2
<b>Total Credits</b>		<b>10</b>

## Veterinary Technology

The Veterinary Technology program will provide students with the skills and knowledge needed to work as a professional veterinary technician. Areas of study include the nine domains included in the CVTEA Essential and Recommended Skills:

1. Office and Hospital Procedures, Client Relations, and Communication;
2. Pharmacy and Pharmacology;
3. Nursing;
4. Anesthesia;
5. Surgical Nursing;
6. Laboratory Procedures;
7. Imaging;

8. Laboratory Animal Procedures; and
9. Avian, Exotic, & Small Mammals Procedures.

The Veterinary Technology program will provide students with “real world” clinical and lab experiences to develop the skills needed to become a valued professional in the field.

Note: Hours Exception (69-72 for the A.A.S.) approved by the KCTCS Board of Regents in June 2013.

## Degrees

- Veterinary Technology - AAS (p. 330)

## Veterinary Technology - AAS

**Offered at:** Owensboro Community and Technical College

**Program Plan Number:** 0183017010

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
MAT 110	Applied Mathematics	3
or MAT 150	College Algebra	
BIO 112	Introduction to Biology	3
BIO 113	Introduction to Biology Lab	1
Social/Behavioral Sciences		3
Heritage/Humanities		3
COM 252	Introduction to Interpersonal Communication	3
Subtotal		19
<b>Required Technical Courses</b>		
CIT 105	Introduction to Computers	3
AGR 240	Introduction to Animal Science	3
AGR 280	Livestock Management	3
AHS 120	Medical Terminology	1
VET 108	Veterinary Technology	4
VET 112	Veterinary Microbiology	4
VET 116	Animal Anatomy and Physiology	4
VET 120	Clinical Practicum I	2
VET 135	Clinical Procedures I	5
VET 210	Pharmacology	3
VET 220	Parasitology and Clinical Lab	5
VET 235	Clinical Procedures II	4
VET 245	Clinical Procedures III	5
VET 250	Clinical Practicum II	5
Subtotal		51
<b>Total Credits</b>		<b>70</b>

## Visual Communication: Communication Arts Technology

The Communication Arts Technology program provides students with the knowledge, skills, and a portfolio needed for entry-level employment as a graphic designer, commercial photographer, web designer, videographer, or video editor. These fields involve the use of specialized software combined with creativity, design, and problem

solving skills to communicate an effective visual message for TV, web and interactive media, product packaging, and advertising layout. This program focuses on developing the creativity and software skills necessary to be competitive in these fields. Many courses include hands-on lab hours with one-on-one assistance from the instructors. The program is completed with an internship in the student's specialty field that allows the student to transfer academic skills to a professional environment. Students and graduates of the Communication Arts Technology program have won numerous design, photography, and video awards in the creative industry.

Employment of graphic designers, photographers, web designers, videographers, and video editors is expected to grow as demand for their products continues to increase from advertisers, publishers, video production studios, and computer design firms. Graduates may be employed as graphic designers at newspapers, print shops, advertising agencies, photographic studios, multimedia shops, web design shops, television broadcasting stations, film and video production studios, department stores, corporations or non-profit agencies.

Progression in the Visual Communication: Communication Arts Technology Program is contingent upon the achievement of a grade of a "C" (2.0) or higher to advance in Visual Communication programs.

## Degrees

- Visual Communication: Communication Arts Technology - AAS (p. 331)
  - Advertising Design Track (p. 331)
  - Commercial Photography Track (p. 331)
  - Webpage Design Track (p. 331)

## Certificates

- Digital Media - Certificate (p. 331)
- Digital Video - Certificate (p. 332)

## Visual Communication: Communication Arts Technology - AAS

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 5004067019

Progression in the Visual Communication: Communication Arts Technology Program is contingent upon the achievement of a grade of a "C" (2.0) or higher to advance in Visual Communication programs.

Course	Title	Credits
<b>General Education Requirements</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Any Higher-Level Quantitative Reasoning		
ART 106	Renaissance Through Modern Art History	3
Natural Sciences		3
Social/Behavioral Sciences		3
Subtotal		15
<b>Technical Core Courses</b>		

ART 110	Drawing I	3
VCA 132	Illustration For Advertising	3
VCA 163	Basic Photography	3
VCA 164	Portrait Photography	3
VCA 173	Basic Advertising Design	3
VCA 174	Publication Design	3
VCA 290	Folio Seminar	3
VCA 298	Practicum	4
VCA 106	Creative Typographical Design	3
VCC 150	Mac Basics	3
VCC 166	Photoshop Basics	3
VCC 266	Advanced Photoshop	3
VCM 115	2-D Animation	3
VCM 220	Webpage Design	3
Subtotal		43
General Education and Technical Core Subtotal		58

*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Advertising Design Track

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 500406701

Course	Title	Credits
General Education and Technical Core Subtotal		58
VCA 273	Corporate Design	3
VCA 274	Advertising Design	3
<b>Total Credits</b>		<b>64</b>

## Commercial Photography Track

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 500406702

Course	Title	Credits
General Education and Technical Core Subtotal		58
VCA 263	Product Photography	3
VCA 264	Commercial Photography	3
<b>Total Credits</b>		<b>64</b>

## Webpage Design Track

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 500406704

Course	Title	Credits
General Education and Technical Core Subtotal		58
CIT 140	JavaScript I	3
IMD 180	Intermediate Web Design	3
VCM 230	Advanced Webpage Design	3
<b>Total Credits</b>		<b>67</b>

## Digital Media - Certificate

**Offered at:** Jefferson Community and Technical College

**Program Plan Number:** 5004063049

Course	Title	Credits
VCA 106	Creative Typographical Design	3
VCA 163	Basic Photography	3
VCA 164	Portrait Photography	3
VCA 173	Basic Advertising Design	3
VCC 150	Mac Basics (or any Digital Literacy Course equivalent)	3
VCC 166	Photoshop Basics	3
VCM 115	2-D Animation	3
VCM 220	Webpage Design	3

**Total Credits** 24

## Digital Video - Certificate

**Offered at:** Jefferson Community and Technical College**Program Plan Number:** 5004063059

Course	Title	Credits
VCA 106	Creative Typographical Design	3
VCA 163	Basic Photography	3
VCA 164	Portrait Photography	3
VCA 173	Basic Advertising Design	3
VCC 150	Mac Basics (or any Digital Literacy Course equivalent)	3
VCC 166	Photoshop Basics	3
VCM 115	2-D Animation	3
VCM 140	Digital Video	3
VCM 240	Advanced Digital Video	3
MUS 120	Music Technology I	3

**Total Credits** 30

## Visual Communication: Design & Technology

Design & Technology emphasizes creative problem solving and insight into the mix of art, design and technical competence. This program includes a Graphic Design track, a Mixed Media track, and a Graphic & Print Production track, with a core of courses common to all. The core includes general education components essential to a collegiate education and technical courses giving students an introduction to design concepts and computer graphics. In addition to core courses, students will take specialty courses for their selected track.

The Graphic Design track emphasizes several aspects of graphic design and focuses on the development of creative skills and technical skills to design logos, advertising, packaging, and a wide variety of publication materials.

The Mixed Media track provides students with a mix of courses within the visual communication program or approved electives that serves the interests and skills of the student. These courses may include graphic design, web design, animation, printing & graphics production, photography, and video production.

The Graphic & Print Production track provides students training in the operations of various printing and graphics production equipment, along with finishing and bindery equipment. Students will learn skills to design and produce a wide variety of printed materials, promotional items, signage, and wide format graphics, in addition to proper pre-production and file preparation procedures.

Students also have a variety of certificates they may earn in the process of completing their AAS degree. These certificates include: Design Assistant, Digital Photography, Graphic Design, Promotional Design & Production, Mixed Media, Apparel Design & Production, Sign & Graphic Production Specialist, Print Production, and Entrepreneurial Certificate in Visual Communication.

Prospective employment opportunities are in communication and advertising agencies, news media, printing and signage companies, public relations departments, and other creative services departments and businesses, including web design, photography, and video production studios. Students also have many options if they desire to become an entrepreneur in the visual communication field.

All technical courses must be completed with a grade of "C" (2.0) or higher to advance in all Visual Communication programs.

## Degrees

- Visual Communication: Design & Technology - AAS (p. 333)
  - Graphic Design Track (p. 334)
  - Mixed Media Track (p. 334)
  - Graphic and Print Production Track (p. 334)

## Diplomas

- Graphic Design - Diploma (p. 334)
  - Graphic Design Track (p. 334)
  - Mixed Media Track (p. 335)
  - Graphic and Print Production Track (p. 335)

## Certificates

- Apparel Design and Production - Certificate (p. 335)
- Design Assistant - Certificate (p. 335)
- Digital Photography - Certificate (p. 335)
- Graphic Design - Certificate (p. 335)
- Mixed Media - Certificate (p. 336)
- Print Production - Certificate (p. 336)
- Promotional Design and Production - Certificate (p. 336)
- Sign and Graphic Production Specialist - Certificate (p. 336)
- Visual Communication - Entrepreneurial Certificate (p. 336)

## Approved Technical Electives

Course	Title	Credits
VCA 105	Drawing Concepts	3
VCA 106	Creative Typographical Design	3
VCA 108	Digital Color Theory <sup>1</sup>	3
VCA 120	Digital Photography I	3
VCA 131	Digital Photography II	3
VCA 164	Portrait Photography	3
VCA 263	Product Photography	3

VCA 264	Commercial Photography	3
VCC 100	Introduction to Visual Communication <sup>1</sup>	3
VCC 106	Typography <sup>1</sup>	3
VCC 110	Design Concepts <sup>1</sup>	3
VCC 125	Computer Graphics I <sup>1,2</sup>	3
VCC 135	Photo Editing for Photography	3
VCC 145	Introduction to Sign & Graphic Production	3
VCC 150	Mac Basics <sup>2</sup>	3
VCC 166	Photoshop Basics <sup>1</sup>	3
VCC 200	Illustrator Basics <sup>1</sup>	3
VCC 210	Advanced Computer Illustration	3
VCC 214	Promotional Design & Production	3
VCC 216	Apparel Design & Production	3
VCC 218	Digital Printing & Production	3
VCC 220	InDesign Basics <sup>1</sup>	3
VCC 230	Advanced InDesign	3
VCC 235	Graphic Design I	3
VCC 245	Graphic Design II	3
VCC 255	Emerging Media Design	3
VCC 260	Computer Graphics II	3
VCC 265	Graphic Design III	3
VCC 266	Advanced Photoshop	3
VCC 270	Acrobat Basics	3
VCC 275	Designing for Sign and Graphic Production	3
VCC 280	Printing & Workflow for Sign and Graphic Production	3
VCC 285	Finishing & Installation of Sign and Graphic Production	3
VCC 297	Internship <sup>1</sup>	3
VCC 298	Practicum	3
VCM 110	Fundamentals of Animation	3
VCM 115	2-D Animation	3
VCM 125	Foundations of Video Production	3
VCM 140	Digital Video	3
VCM 150	Audio Production I	3
VCM 205	Introduction to HTML	3
VCM 210	3-D Animation	3
VCM 215	After Effects	3
VCM 220	Webpage Design	3
VCM 225	Advanced 3-D Animation	3
VCM 230	Advanced Webpage Design	3
VCM 240	Advanced Digital Video	3
VCP 255	Special Topics Lab	3
COE 199	Cooperative Education: (Topic)	3
ART 110	Drawing I	3
ART 112	2-Dimensional Design	3
BAS 170	Entrepreneurship	3
BAS 200	Small Business Management	3
BAS 282	Principles of Marketing	3
CIT 140	JavaScript I	3
CIT 141	PHP I	3
CIT 155	Web Page Development	3

CIT 157	Web Site Design and Production	3
IMD 133	Beginning Web Design	3
ENG 207	Creative Writing: (Subtitle Required)	3
ENG 281	Introduction to Film	3
ENG 282	International Film Studies	3
HUM 281	Introduction to Film	3
HUM 282	International Film Studies	3
IMD 180	Intermediate Web Design	3
IMD 230	Advanced Web Design	3
IMD 232	Web Design with Adobe Dreamweaver	3
IMD 240	Multimedia Development for the Web	3
IMD 250	Digital Video Editing I	3
IMD 255	Digital Video Editing II	3
IMD 258	Visual Effects for Video	3
TEC 200	Technical Communications	3
UST 107	Commercial Drone Operations	3
UST 170	Drone Media Applications	3

<sup>1</sup> CORE courses<sup>2</sup> Approved for Digital Literacy

## Visual Communication: Design & Technology - AAS

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 5004097019

### Curriculum Effective Spring Semester

All technical courses must be completed with a grade of "C" (2.0) or higher to advance in all Visual Communication programs.

Course	Title	Credits
<b>General Education Requirements</b>		
ENG 101	Writing I	3
Select one of the following two options:		3
MAT 110	Applied Mathematics	
Higher Level Quantitative Reasoning		
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
Subtotal		15
<b>Required Technical Core</b>		
VCA 108	Digital Color Theory	3
VCA 280	Professional Portfolio Development	3
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
VCC 297	Internship	3
Subtotal		21
General Education and Technical Core Subtotal		36



*Students must complete one of the tracks listed below to complete the AAS requirements.*

## Graphic Design Track

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 500409701

Course	Title	Credits
General Education and Technical Core Subtotal		36
VCC 166	Photoshop Basics	3
VCC 200	Illustrator Basics	3
VCC 220	InDesign Basics	3
VCC 235	Graphic Design I	3
VCC 245	Graphic Design II	3
VCC 255	Emerging Media Design	3
VCC 265	Graphic Design III	3
Approved Technical Electives <sup>1</sup>		6
<b>Total Credits</b>		<b>63</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Mixed Media Track

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 500409705

Course	Title	Credits
General Education and Technical Core Subtotal		36
VCC 166	Photoshop Basics	3
Approved Technical Electives <sup>1</sup>		24
<b>Total Credits</b>		<b>63</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Graphic and Print Production Track

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 500409703

Course	Title	Credits
General Education and Technical Core Subtotal		36
VCC 145	Introduction to Sign & Graphic Production	3
VCC 200	Illustrator Basics	3
VCC 220	InDesign Basics	3
or VCC 166	Photoshop Basics	
VCC 214	Promotional Design & Production	3
VCC 216	Apparel Design & Production	3
VCC 218	Digital Printing & Production	3
VCC 275	Designing for Sign and Graphic Production	3
VCC 280	Printing & Workflow for Sign and Graphic Production	3

VCC 285	Finishing & Installation of Sign and Graphic Production	3
<b>Total Credits</b>		<b>63</b>

## Graphic Design - Diploma

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 5004094059

### Curriculum Effective Spring Semester

Course	Title	Credits
<b>Required General Education</b>		
Select one of the following three options:		3
	Written Communication	
	Oral Communications	
	Humanities/Heritage	
Select one of the following three options:		3
	Quantitative Reasoning	
	Natural Sciences	
	Social/Behavioral Sciences	
Subtotal		6
<b>Required Technical Core</b>		
VCA 108	Digital Color Theory	3
VCA 280	Professional Portfolio Development	3
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
VCC 297	Internship	3
Subtotal		21
General Education and Technical Core Subtotal		27

*Students must complete one of the tracks listed below to complete the diploma requirements.*

## Graphic Design Track

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 500409401

Course	Title	Credits
General Education and Technical Core Subtotal		27
VCC 166	Photoshop Basics	3
VCC 200	Illustrator Basics	3
VCC 220	InDesign Basics	3
VCC 235	Graphic Design I	3
VCC 245	Graphic Design II	3
VCC 255	Emerging Media Design	3
VCC 265	Graphic Design III	3
Approved Technical Electives <sup>1</sup>		6
<b>Total Credits</b>		<b>54</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Mixed Media Track

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 500409402

Course	Title	Credits
General Education and Technical Core Subtotal		27
VCC 166	Photoshop Basics	3
Approved Technical Electives <sup>1</sup>		24
<b>Total Credits</b>		<b>54</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Graphic and Print Production Track

**Offered at:** Big Sandy Community and Technical College

**Program Plan Number:** 500409403

Course	Title	Credits
General Education and Technical Core Subtotal		27
VCC 145	Introduction to Sign & Graphic Production	3
VCC 200	Illustrator Basics	3
VCC 220 or VCC 166	InDesign Basics Photoshop Basics	3
VCC 214	Promotional Design & Production	3
VCC 216	Apparel Design & Production	3
VCC 218	Digital Printing & Production	3
VCC 275	Designing for Sign and Graphic Production	3
VCC 280	Printing & Workflow for Sign and Graphic Production	3
VCC 285	Finishing & Installation of Sign and Graphic Production	3
<b>Total Credits</b>		<b>54</b>

## Apparel Design and Production - Certificate

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 5004093129

**Curriculum Effective Spring Semester**

Course	Title	Credits
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
VCC 166 or VCC 200	Photoshop Basics Illustrator Basics	3
VCC 216	Apparel Design & Production	3
<b>Total Credits</b>		<b>12</b>

## Design Assistant - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 5004093019

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCA 108	Digital Color Theory	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
<b>Total Credits</b>		<b>15</b>

## Digital Photography - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College, Somerset Community College

**Program Plan Number:** 5004093069

**May be available completely online. Please check with your academic advisor.**

**Curriculum Effective Spring Semester**

Course	Title	Credits
VCA 120	Digital Photography I	3
Select one of the following two options:		3
VCC 135	Photo Editing for Photography	
Approved Technical Elective <sup>1</sup>		
VCC 166	Photoshop Basics	3
Select one of the following two options:		3
VCA 131	Digital Photography II	
Approved Technical Elective <sup>1</sup>		
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Graphic Design - Certificate

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 5004093119

**Curriculum Effective Spring Semester**

Course	Title	Credits
VCA 108	Digital Color Theory	3
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3

VCC 235	Graphic Design I	3
VCC 245	Graphic Design II	3
VCC 255	Emerging Media Design	3
VCC 265	Graphic Design III	3
Approved Technical Elective <sup>1</sup>		3
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Mixed Media - Certificate

**Offered at:** Big Sandy Community and Technical College, Hazard Community and Technical College

**Program Plan Number:** 5004093099

**May be available completely online. Please check with your academic advisor.**

### Curriculum Effective Spring Semester

Course	Title	Credits
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
Approved Technical Electives <sup>1</sup>		12
<b>Total Credits</b>		<b>18</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Print Production - Certificate

**This program is not currently offered at a KCTCS College.**

**Program Plan Number:** 5004093159

### Curriculum Effective Spring Semester

Course	Title	Credits
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
VCC 218	Digital Printing & Production	3
VCC 220	InDesign Basics	3
<b>Total Credits</b>		<b>12</b>

## Promotional Design and Production - Certificate

**Offered at:** Big Sandy Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5004093109

### Curriculum Effective Spring Semester

Course	Title	Credits
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3

VCC 214	Promotional Design & Production	3
Approved Technical Electives <sup>1</sup>		6
<b>Total Credits</b>		<b>15</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Sign and Graphic Production Specialist - Certificate

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 5004093139

### Curriculum Effective Spring Semester

Course	Title	Credits
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
VCC 145	Introduction to Sign & Graphic Production	3
VCC 200	Illustrator Basics	3
VCC 275	Designing for Sign and Graphic Production	3
VCC 280	Printing & Workflow for Sign and Graphic Production	3
VCC 285	Finishing & Installation of Sign and Graphic Production	3
<b>Total Credits</b>		<b>21</b>

## Visual Communication - Entrepreneurial Certificate

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 5004093149

### Curriculum Effective Spring Semester

Course	Title	Credits
BAS 170	Entrepreneurship	3
BAS 200	Small Business Management	3
BAS 282	Principles of Marketing	3
VCC 100	Introduction to Visual Communication	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I	3
Approved Technical Electives <sup>1</sup>		12
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> A list of approved technical electives can be found on the Visual Communication: Design and Technology Program page (p. 332).

## Visual Communication: Multimedia

The Visual Communication: Multimedia program provides students the necessary skills to prepare and produce a wide variety of multimedia presentations. This program includes tracks in Animation, Web Design, Digital Design, Video Production, and Multimedia. The core includes general education components essential to a collegiate education

and technical courses giving students an introduction to typography, design concepts, color theory, and computer graphics. In addition to core courses, students will take specialty courses for their selected track.

Prospective employment opportunities are in advertising agencies, graphic design studios, news media, printing and signage companies, department stores, and other creative services departments and businesses, including web design and video production studios.

All technical courses must be completed with a grade of "C" (2.0) or higher to advance in all Visual Communication programs.

## Degrees

- Visual Communication: Multimedia - AAS (p. 338)
  - Animation Track (p. 338)
  - Digital Design Track (p. 338)
  - Multimedia Track (p. 338)
  - Video Production Track (p. 338)
  - Web Design Track (p. 338)

## Diplomas

- Multimedia - Diploma (p. 339)
  - Web Design Track (p. 339)
  - Video Production Track (p. 339)
  - Multimedia Track (p. 339)
  - Digital Design Track (p. 339)
  - Animation Track (p. 339)

## Certificates

- Animation - Certificate (p. 339)
- Audio Production - Certificate (p. 340)
- Digital Design - Certificate (p. 340)
- Multimedia - Certificate (p. 340)
- Video Production - Certificate (p. 340)
- Web Design - Certificate (p. 340)

## Approved Technical Electives

Course	Title	Credits
ART 110	Drawing I	3
ART 112	2-Dimensional Design	3
COE 199	Cooperative Education: (Topic)	3
IMD 133	Beginning Web Design	3
IMD 180	Intermediate Web Design	3
IMD 230	Advanced Web Design	3
IMD 232	Web Design with Adobe Dreamweaver	3
IMD 240	Multimedia Development for the Web	3
IMD 250	Digital Video Editing I	3
IMD 255	Digital Video Editing II	3
IMD 258	Visual Effects for Video	3
MUS 106U	Music in Film	3
VCA 105	Drawing Concepts	3
VCA 106	Creative Typographical Design	3
VCA 108	Digital Color Theory <sup>1</sup>	3
VCA 120	Digital Photography I	3

VCA 131	Digital Photography II	3
VCA 132	Illustration For Advertising	3
VCA 151	Digital Filmmaking I	3
VCA 152	Digital Filmmaking II	3
VCA 160	Commercial Photography I	3
VCA 161	Commercial Photography II	3
VCA 170	Advertising Design I	3
VCA 171	Advertising Design II	3
VCA 251	Digital Filmmaking III	3
VCA 252	Digital Filmmaking IV	3
VCA 260	Commercial Photography III	4
VCA 261	Commercial Photography IV	4
VCA 270	Advertising Design III	4
VCA 271	Advertising Design IV	4
VCA 280	Professional Portfolio Development <sup>1</sup>	3
VCC 100	Introduction to Visual Communication <sup>1</sup>	3
VCC 106	Typography <sup>1</sup>	3
VCC 110	Design Concepts <sup>1</sup>	3
VCC 125	Computer Graphics I <sup>1,2</sup>	3
VCC 135	Photo Editing for Photography	3
VCC 150	Mac Basics <sup>2</sup>	3
VCC 166	Photoshop Basics <sup>1</sup>	3
VCC 200	Illustrator Basics <sup>1</sup>	3
VCC 210	Advanced Computer Illustration	3
VCC 214	Promotional Design & Production	3
VCC 216	Apparel Design & Production	3
VCC 218	Digital Printing & Production	3
VCC 220	InDesign Basics <sup>1</sup>	3
VCC 230	Advanced InDesign	3
VCC 235	Graphic Design I	3
VCC 245	Graphic Design II	3
VCC 255	Emerging Media Design	3
VCC 260	Computer Graphics II	3
VCC 265	Graphic Design III	3
VCC 266	Advanced Photoshop	3
VCC 270	Acrobat Basics	3
VCC 275	Designing for Sign and Graphic Production	3
VCC 285	Finishing & Installation of Sign and Graphic Production	3
VCC 297	Internship <sup>1</sup>	3
VCC 298	Practicum	3
VCM 110	Fundamentals of Animation	3
VCM 115	2-D Animation	3
VCM 125	Foundations of Video Production	3
VCM 140	Digital Video	3
VCM 150	Audio Production I	3
VCM 205	Introduction to HTML	3
VCM 210	3-D Animation	3
VCM 215	After Effects	3
VCM 220	Webpage Design	3
VCM 225	Advanced 3-D Animation	3
VCM 230	Advanced Webpage Design	3

VCM 240	Advanced Digital Video	3
VCP 255	Special Topics Lab	3
VCP 285	Electronic Prepress	3

<sup>1</sup> CORE courses  
<sup>2</sup> Approved for Digital Literacy

# Visual Communication: Multimedia - AAS

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1003047019

**May be available completely online. Please check with your academic advisor.**

All technical courses must be completed with a grade of “C” (2.0) or higher to advance in all Visual Communication programs.

Course	Title	Credits
<b>General Education Requirements</b>		
Quantitative Reasoning		3
Natural Sciences		3
Social/Behavioral Sciences		3
Heritage/Humanities		3
ENG 101	Writing I	3
Subtotal		15
<b>Required Technical Core</b>		
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCA 108	Digital Color Theory	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCC 166	Photoshop Basics	3
VCC 200	Illustrator Basics	3
VCC 220	InDesign Basics	3
VCC 255	Emerging Media Design	3
VCA 280	Professional Portfolio Development	3
Select one of the following three options:		3
VCC 297	Internship	
VCC 298	Practicum	
COE 199	Cooperative Education: (Topic)	
Subtotal		33
General Education and Technical Core Subtotal		48

*Students must complete one of the tracks listed below to complete the AAS requirements.*

<sup>1</sup> Approved for Digital Literacy

## Animation Track

This program is not currently offered at a KCTCS College.

**Program Plan Number:** 100304701

Course	Title	Credits
General Education and Technical Core Subtotal		48
VCM 115	2-D Animation	3
VCM 210	3-D Animation	3
VCM 215	After Effects	3
VCM 225	Advanced 3-D Animation	3
Approved Technical Electives		3
<b>Total Credits</b>		<b>63</b>

## Digital Design Track

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 100304703

Course	Title	Credits
General Education and Technical Core Subtotal		48
VCC 260	Computer Graphics II	3
Approved Technical Electives		12
<b>Total Credits</b>		<b>63</b>

## Multimedia Track

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 100304706

Course	Title	Credits
General Education and Technical Core Subtotal		48
VCM 140	Digital Video	3
VCM 220	Webpage Design	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>63</b>

## Video Production Track

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 100304705

Course	Title	Credits
General Education and Technical Core Subtotal		48
VCM 125	Foundations of Video Production	3
VCM 140	Digital Video	3
VCM 215	After Effects	3
VCM 240	Advanced Digital Video	3
Approved Technical Elective		3
<b>Total Credits</b>		<b>63</b>

## Web Design Track

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 100304702

Course	Title	Credits
General Education and Technical Core Subtotal		48
VCM 220	Webpage Design	3



VCM 230	Advanced Webpage Design	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>63</b>

## Multimedia - Diploma

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 1003044019

Course	Title	Credits
<b>General Education Requirements</b>		
Select one of the following three options:		3
Written Communication		
Oral Communications		
Humanities/Heritage		
Select one of the following three options:		3
Quantitative Reasoning		
Natural Sciences		
Social/Behavioral Sciences		
Subtotal		6
<b>Required Technical Core</b>		
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCA 108	Digital Color Theory	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCC 166	Photoshop Basics	3
VCC 200	Illustrator Basics	3
VCC 220	InDesign Basics	3
VCC 255	Emerging Media Design	3
VCA 280	Professional Portfolio Development	3
Select one of the following three options:		3
VCC 297	Internship	
VCC 298	Practicum	
COE 199	Cooperative Education: (Topic)	
Subtotal		33
General Education and Technical Core Subtotal		39
<i>Students must complete one of the tracks listed below to complete the diploma requirements.</i>		

<sup>1</sup> Approved for Digital Literacy

## Animation Track

This program is not currently offered at a KCTCS College.

**Program Plan Number:** 100304403

Course	Title	Credits
General Education and Technical Core Subtotal		39
VCM 115	2-D Animation	3
VCM 210	3-D Animation	3
VCM 215	After Effects	3
VCM 225	Advanced 3-D Animation	3

Approved Technical Elective	3
<b>Total Credits</b>	<b>54</b>

## Digital Design Track

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 100304404

Course	Title	Credits
General Education and Technical Core Subtotal		39
VCC 260	Computer Graphics II	3
Approved Technical Electives		12
<b>Total Credits</b>		<b>54</b>

## Multimedia Track

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 100304401

Course	Title	Credits
General Education and Technical Core Subtotal		39
VCM 140	Digital Video	3
VCM 220	Webpage Design	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>54</b>

## Video Production Track

**Offered at:** Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 100304406

Course	Title	Credits
General Education and Technical Core Subtotal		39
VCM 125	Foundations of Video Production	3
VCM 140	Digital Video	3
VCM 215	After Effects	3
VCM 240	Advanced Digital Video	3
Approved Technical Elective		3
<b>Total Credits</b>		<b>54</b>

## Web Design Track

**Offered at:** West Kentucky Community and Technical College

**Program Plan Number:** 100304402

Course	Title	Credits
General Education and Technical Core Subtotal		39
VCM 220	Webpage Design	3
VCM 230	Advanced Webpage Design	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>54</b>

## Animation - Certificate

This program is not currently offered at a KCTCS College.

**Program Plan Number:** 1003043029

Course	Title	Credits
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCA 108	Digital Color Theory	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCC 166	Photoshop Basics	3
VCM 115	2-D Animation	3
VCM 210	3-D Animation	3
VCM 215	After Effects	3
Approved Technical Elective		3
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Approved Digital Literacy Course

## Audio Production - Certificate

**Offered at:** West Kentucky Community and Technical College**Program Plan Number:** 1003043079

Course	Title	Credits
VCM 125	Foundations of Video Production	3
VCM 140	Digital Video	3
VCM 150	Audio Production I	3
VCM 240	Advanced Digital Video	3
Approved Technical Electives		6
<b>Total Credits</b>		<b>18</b>

## Digital Design - Certificate

**Offered at:** Somerset Community College, West Kentucky Community and Technical College**Program Plan Number:** 1003043059**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
VCA 108	Digital Color Theory	3
VCC 100	Introduction to Visual Communication	3
VCC 106	Typography	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCC 166	Photoshop Basics	3
VCC 200	Illustrator Basics	3
VCC 220	InDesign Basics	3
Approved Technical Electives		6
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Approved Digital Literacy Course

## Multimedia - Certificate

**Offered at:** West Kentucky Community and Technical College**Program Plan Number:** 1003043019**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
VCC 100	Introduction to Visual Communication	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCC 255	Emerging Media Design	3
VCM 140	Digital Video	3
VCM 215	After Effects	3
VCM 220	Webpage Design	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Approved for Digital Literacy

## Video Production - Certificate

**Offered at:** Somerset Community College, West Kentucky Community and Technical College**Program Plan Number:** 1003043069**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
VCC 100	Introduction to Visual Communication	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCM 125	Foundations of Video Production	3
VCM 140	Digital Video	3
VCM 215	After Effects	3
VCM 240	Advanced Digital Video	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Approved Digital Literacy Course

## Web Design - Certificate

**Offered at:** Big Sandy Community and Technical College, Somerset Community College, West Kentucky Community and Technical College**Program Plan Number:** 1003043039**May be available completely online. Please check with your academic advisor.**

Course	Title	Credits
VCA 108	Digital Color Theory	3
VCC 100	Introduction to Visual Communication	3

VCC 106	Typography	3
VCC 110	Design Concepts	3
VCC 125	Computer Graphics I <sup>1</sup>	3
VCM 220	Webpage Design	3
VCM 230	Advanced Webpage Design	3
Approved Technical Electives		9
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Approved for Digital Literacy

## Welding Technology

The Welding Technology Program is dedicated to welding education, technology and student success. Students in this program will learn various welding techniques, careers and the skills needed to be successful in the Welding Technology field. Welding occupations are primarily concerned with joining, surfacing, or repairing structures or parts made of metal or other weldable materials. The skills and knowledge needed to determine the appropriate welding technique required for a specific project and to successfully perform that technique are gained through course work and practical experience. The program offers a wide range of credentials including the Associate in Applied Science Degree, Diploma, and eleven certificates in Welding Technology.

## Degrees

- Welding Technology - AAS (p. 341)

## Diplomas

- Combination Welder - Diploma (p. 341)

## Certificates

- ARC Cutter - Certificate (p. 342)
- ARC Welder - Certificate (p. 342)
- AWS National Skills Standards Level I - Certificate (p. 343)
- Gas Metal Arc Welder - Certificate (p. 343)
- Gas Tungsten Arc Welder - Certificate (p. 343)
- Gas Welder - Certificate (p. 343)
- Pipeline Welder - Certificate (p. 344)
- Production Line Welder - Certificate (p. 344)
- Shielded Metal Arc Welder - Certificate (p. 344)
- Tack Welder - Certificate (p. 345)
- Welder Helper - Certificate (p. 345)
- Welding Automation - Certificate (p. 345)

## Welding Technology - AAS

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Owensboro Community and Technical College, Southcentral Kentucky Community and Technical College

**Program Plan Number:** 4805087019

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
Select one of the following four options:		3
MAT 110	Applied Mathematics	
MAT 116	Technical Mathematics	
MAT 146	Contemporary College Mathematics	
MAT 150	College Algebra	
Heritage/Humanities		3
Select one of the following two options:		3-4
Natural Sciences		
PHY 151 & PHY 161	Introductory Physics I and Introductory Physics I Laboratory	
PSY 110 or SOC 101	General Psychology or Introduction to Sociology	3
COM 252 or COM 181	Introduction to Interpersonal Communication or Basic Public Speaking	3
Subtotal		18-19
<b>Required</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
WLD 100 or WLD 110	Oxy-Fuel Systems or Cutting Processes	2
WLD 101 or WLD 111	Oxy-Fuel Systems Lab or Cutting Processes Lab	2-3
WLD 120	Shielded Metal Arc Welding (SMAW)	2
WLD 121	Shielded Metal Arc Welding Fillet Lab (SMAW)	3
WLD 123	Shielded Metal Arc Welding Groove with Backing Lab (SMAW)	3
or WLD 225	Shielded Metal Arc Welding Open Groove Lab	
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab (GTAW)	3
WLD 133	Gas Tungsten Arc Welding Groove Lab (GTAW)	3
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
WLD 143	Gas Metal Arc Welding Groove Lab (GMAW)	3
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 220	Welding Certification	2
WLD 221	Welding Certification Lab	3
WLD 298 or WLD 299	Welding Practicum or Cooperative Education Program	1-4
Technical Electives		3
Subtotal		42-49
<b>Total Credits</b>		<b>60-68</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Combination Welder - Diploma

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway

Community and Technical College, Hazard Community and Technical College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805084029

Course	Title	Credits
<b>General Education</b>		
ENG 101	Writing I	3
or TEC 200	Technical Communications	
Select one of the following options:		3
MAT 110	Applied Mathematics	
MAT 116	Technical Mathematics	
MAT 146	Contemporary College Mathematics	
MAT 150	College Algebra	
Subtotal		6
<b>Required</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
WLD 120	Shielded Metal Arc Welding (SMAW)	2
WLD 121	Shielded Metal Arc Welding Fillet Lab (SMAW)	3
WLD 123	Shielded Metal Arc Welding Groove with Backing Lab (SMAW)	3
or WLD 225	Shielded Metal Arc Welding Open Groove Lab	
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab (GTAW)	3
WLD 133	Gas Tungsten Arc Welding Groove Lab (GTAW)	3
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
WLD 143	Gas Metal Arc Welding Groove Lab (GMAW)	3
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 220	Welding Certification	2
WLD 221	Welding Certification Lab	3
WLD 298	Welding Practicum	1-4
or WLD 299	Cooperative Education Program	
Technical Elective		3
Subtotal		42-49
<b>Total Credits</b>		<b>48-55</b>

<sup>1</sup> Digital Literacy course - 3 credit hours or Demonstrated Competency - 0 credit hours

## Technical Electives

Course	Title	Credits
This list is not all inclusive. Other courses may be approved at the discretion of the program coordinator.		

WPP 200	Workplace Principles	3
WLD 151	Basic Welding A	2
WLD 161	Submerged Arc Welding Lab	1
WLD 181	Advanced Welding Systems Lab	1
WLD 147	Flux Cored Arc Welding Lab	1
WLD 145	Gas Metal Arc Welding Aluminum Lab	1
WLD 251	Welding Automation Lab	1-6
WLD 253	Pipe Fitting and Template Development Lab	1
WLD 229	Shielded Metal Arc Welding Pipe Lab B	3
WLD 239	Orbital Tube Welding	1
WLD 240	Materials Technology	2
BEX 100	Basic Electricity for Non-Majors	3
BEX 101	Basic Electricity Lab for Non-Majors	2

## ARC Cutter - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083099

Course	Title	Credits
WLD 110	Cutting Processes	2
WLD 111	Cutting Processes Lab	3
<b>Total Credits</b>		<b>5</b>

## ARC Welder - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083029

Course	Title	Credits
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
WLD 120	Shielded Metal Arc Welding (SMAW)	2
Select one of the following three options:		3
WLD 121	Shielded Metal Arc Welding Fillet Lab (SMAW)	

WLD 123	Shielded Metal Arc Welding Groove with Backing Lab (SMAW)	
WLD 225	Shielded Metal Arc Welding Open Groove Lab (SMAW)	
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab (GTAW)	3
or WLD 133	Gas Tungsten Arc Welding Groove Lab	
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
or WLD 143	Gas Metal Arc Welding Groove Lab	
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
<b>Total Credits</b>		<b>24-25</b>

## AWS National Skills Standards Level I - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083089

Course	Title	Credits
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
WLD 120	Shielded Metal Arc Welding (SMAW)	2
WLD 121	Shielded Metal Arc Welding Fillet Lab (SMAW)	3
WLD 123	Shielded Metal Arc Welding Groove with Backing Lab (SMAW)	3
or WLD 225	Shielded Metal Arc Welding Open Groove Lab	
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab (GTAW)	3
WLD 133	Gas Tungsten Arc Welding Groove Lab (GTAW)	3
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
WLD 143	Gas Metal Arc Welding Groove Lab (GMAW)	3
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
<b>Total Credits</b>		<b>33-34</b>

## Gas Metal Arc Welder - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard

Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083149

Course	Title	Credits
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
Select one of the following three options:		1-3
WLD 143	Gas Metal Arc Welding Groove Lab (GMAW)	
WLD 245	Gas Metal Arc Welding Pipe Lab A (GMAW)	
WLD 147	Flux Cored Arc Welding Lab (FCAW)	
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
<b>Total Credits</b>		<b>15-18</b>

## Gas Tungsten Arc Welder - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083159

Course	Title	Credits
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab (GTAW)	3
WLD 133	Gas Tungsten Arc Welding Groove Lab (GTAW)	3
or WLD 235	Gas Tungsten Arc Welding Pipe Lab A	
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
<b>Total Credits</b>		<b>17-18</b>

## Gas Welder - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway



Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083039

Course	Title	Credits
WLD 100	Oxy-Fuel Systems	2
WLD 101	Oxy-Fuel Systems Lab	2
<b>Total Credits</b>		<b>4</b>

## Pipeline Welder - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083109

Course	Title	Credits
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
WLD 120	Shielded Metal Arc Welding (SMAW)	2
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 220	Welding Certification	2
WLD 221	Welding Certification Lab	3
WLD 227	Shielded Metal Arc Welding Pipe Lab A (SMAW)	3
WLD 235	Gas Tungsten Arc Welding Pipe Lab A (GTAW)	3
WLD 245	Gas Metal Arc Welding Pipe Lab A (GMAW)	3
Electives		0-10
<b>Total Credits</b>		<b>29-40</b>

## Recommended Electives

Course	Title	Credits
WLD 229	Shielded Metal Arc Welding Pipe Lab B	3
WLD 237	Gas Tungsten Arc Welding Pipe Lab B	3
WLD 247	Gas Metal Arc Welding Pipe Lab B	3
WLD 253	Pipe Fitting and Template Development Lab	1

## Production Line Welder - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083059

Course	Title	Credits
WLD 130	Gas Tungsten Arc Welding (GTAW)	2
WLD 131	Gas Tungsten Arc Welding Fillet Lab (GTAW)	3
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3
or WLD 111	Cutting Processes Lab	
WLD 120	Shielded Metal Arc Welding (SMAW)	2
WLD 121	Shielded Metal Arc Welding Fillet Lab (SMAW)	3
<b>Total Credits</b>		<b>19-20</b>

## Shielded Metal Arc Welder - Certificate

**Offered at:** Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083139

Course	Title	Credits
WLD 120	Shielded Metal Arc Welding (SMAW)	2
WLD 121	Shielded Metal Arc Welding Fillet Lab (SMAW)	3
WLD 123	Shielded Metal Arc Welding Groove with Backing Lab (SMAW)	3
or WLD 225	Shielded Metal Arc Welding Open Groove Lab	
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 100	Oxy-Fuel Systems	2
or WLD 110	Cutting Processes	
WLD 101	Oxy-Fuel Systems Lab	2-3

or WLD 111 Cutting Processes Lab

**Total Credits****17-18**

## Tack Welder - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083119

Course	Title	Credits
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
Select one of the following five options:		2-5
WLD 151	Basic Welding A	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab (SMAW)	
WLD 130 & WLD 131	Gas Tungsten Arc Welding and Gas Tungsten Arc Welding Fillet Lab (GTAW)	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab (GMAW)	
WLD 152	Basic Welding B	
<b>Total Credits</b>		<b>7-10</b>

## Welder Helper - Certificate

**Offered at:** Ashland Community and Technical College, Big Sandy Community and Technical College, Bluegrass Community and Technical College, Elizabethtown Community and Technical College, Gateway Community and Technical College, Hazard Community and Technical College, Henderson Community College, Hopkinsville Community College, Jefferson Community and Technical College, Madisonville Community College, Maysville Community and Technical College, Owensboro Community and Technical College, Somerset Community College, Southcentral Kentucky Community and Technical College, Southeast Kentucky Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083129

Course	Title	Credits
Select one of the following six options:		2-5
WLD 151	Basic Welding A	
WLD 120 & WLD 121	Shielded Metal Arc Welding and Shielded Metal Arc Welding Fillet Lab (SMAW)	
WLD 130 & WLD 131	Gas Tungsten Arc Welding and Gas Tungsten Arc Welding Fillet Lab (GTAW)	
WLD 140 & WLD 141	Gas Metal Arc Welding and Gas Metal Arc Welding Fillet Lab (GMAW)	
WLD 152	Basic Welding B	

IMT 100 Welding for Maintenance  
& IMT 101 and Welding for Maintenance Lab**Total Credits****2-5**

## Welding Automation - Certificate

**Offered at:** Hopkinsville Community College, Owensboro Community and Technical College, Somerset Community College, West Kentucky Community and Technical College

**Program Plan Number:** 4805083169

Course	Title	Credits
WLD 140	Gas Metal Arc Welding (GMAW)	2
WLD 141	Gas Metal Arc Welding Fillet Lab (GMAW)	3
WLD 143	Gas Metal Arc Welding Groove Lab (GMAW)	3
WLD 170	Blueprint Reading for Welding	2
WLD 171	Blueprint Reading for Welding Lab	3
WLD 251	Welding Automation Lab	1-6
<b>Total Credits</b>		<b>14-19</b>

## Women's and Gender Studies

The Women's and Gender Studies Certificate Program provides an interdisciplinary approach that engages students in exploring and understanding historical and contemporary social issues with a focus on gender. The courses will require students to read, write, and think critically about such issues as identity, sexuality, the media, family, violence, health care, employment/discrimination, political structures, the intersection of gender, race, and poverty and the representation and participation of women on the world stage in artistic and socio-political spheres.

### Certificates

- Women's and Gender Studies - Certificate (p. 345)

## Women's and Gender Studies - Certificate

**Offered at:** Jefferson Community and Technical College**Program Plan Number:** 0502073019

Course	Title	Credits
WGS 200	Introduction to Women's and Gender Studies in the Social Sciences	3
or WGS 201	Introduction to Women's and Gender Studies in the Arts and Humanities	
Select one of the following three options:		3
HIS 266	History of American Women to 1920 <sup>1</sup>	
HIS 267	History of American Women from 1920 <sup>1</sup>	
HIS 265	History of Women in America <sup>2</sup>	
Electives (Selected from the following list or by consent of instructor)		6
<b>Total Credits</b>		<b>12</b>

<sup>1</sup> HIS 266 History of American Women to 1920 (3 credit hours) and HIS 267 History of American Women from 1920 (3 credit hours) do not meet general education nor cultural competence requirements.

<sup>2</sup> HIS 265 History of Women in America (3 credit hours) satisfies general education and cultural competence requirements.

## Women's and Gender Studies Electives

Course	Title	Credits
Select two of the following electives or by consent of instructor:		6
ANT 160	Cultural Diversity in the Modern World	3
ANT 220	Introduction to Cultural Anthropology	3
BIO 120	Human Ecology	3
COM 299	Special Topics in Communication (Gender and Communication)	3
ENG 233	Literature and Identities (Subtitle required) (Sexuality & Representation)	3
ENG 232	Literature and Place (Subtitle required) (Sub-topic required)	3
ENG 234	Introduction to Women's Literature	3
FAM 253	Human Sexuality: Development, Behavior, and Attitudes	3
FLK 276	Introduction to Folk Studies	3
FLK 280	Cultural Diversity in the United States	3
GEO 160	Lands and Peoples of the Non-Western World	3
GEO 240	Geography and Gender	3
HIS 265	History of Women in America	3
HIS 266	History of American Women to 1920 <sup>1</sup>	3
HIS 267	History of American Women from 1920 <sup>1</sup>	3
HUM 121	Peace Studies	3
PHI 130	Ethics	3
PHI 110	Medical Ethics	3
REL 101	Introduction to Religious Studies	3
SOC 235	Inequality in Society	3
SWK 275	The Family	3
WGS 200	Introduction to Women's and Gender Studies in the Social Sciences <sup>2</sup>	3
WGS 201	Introduction to Women's and Gender Studies in the Arts and Humanities <sup>2</sup>	3

<sup>1</sup> HIS 266 History of American Women to 1920 (3 credit hours) and HIS 267 History of American Women from 1920 (3 credit hours) do not meet general education nor cultural competence requirements.

<sup>2</sup> May be selected if not taken in core.

## Workplace Safety Specialist

The Workplace Safety Specialist Certificate is designed to prepare and provide a well-rounded base of knowledge essential for success in carrying out effective safety programs for today's workforce. Professionals who are seeking or are new to safety management occupations are introduced to health and safety regulating agencies, their rules and regulations, compliance standards as well as the personal and professional skills required to administrate safety programs.

## Certificate

- Workplace Safety Specialist - Certificate (p. 346)

## Workplace Safety Specialist - Certificate

**Offered at:** Maysville Community and Technical College, Southeast Kentucky Community and Technical College

**Program Plan Number:** 1507993010

Course	Title	Credits
Oral Communications		3
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
BAS 288	Personal and Organizational Leadership	3
HSM 100	Introduction to Homeland Security	3
AHS 140	Introduction to Public and Community Health	3
ISX 100	Industrial Safety	3
<b>Total Credits</b>		<b>15-18</b>

## Associate in Fine Arts (A.F.A.) Curricula

- Filmmaking and Cinematic Arts (p. 346)
- Theatre Arts (p. 349)
- Visual Art (p. 349)

## Filmmaking and Cinematic Arts

The Associate in Fine Arts (AFA) in Filmmaking and Cinematic Arts degree program is designed for students who plan to transfer to a four-year institution to acquire a Bachelor of Fine Arts in (Digital) Cinematic Arts related fields. The embedded certificate programs are designed to accommodate non-degree seeking students who wish to increase their knowledge and skills for the workplace. The program includes standard, transferable general education requirements for students seeking a higher degree. Technical courses in film history, film production techniques, cinematography, digital media, and writing for film are required in the core. Courses are offered in areas such as screenwriting, digital media design, camera, audio, acting and editing. Students will focus on the application of skills in the production of several finished short films.

Due to the nature of filmmaking and cinematic arts, multiple ways of understanding/communicating are explored and critical competencies like creative problem solving, collaboration, time management and critical thinking are learned and practiced. Areas of concentration emulate the different specializations within the industry. Specializations mirror certificates available. Upon completion, graduates will be prepared for careers in the growing film industry in Kentucky, transfer to a 4-year institution, and employment – worldwide – in this growing medium.

The Filmmaking: From Script to Screen certificate program will provide students with a hands-on, practical overview of the filmmaking process. In addition to a working knowledge of the elements of filmmaking, graduates will have a greater understanding of the collaborative process, creative problem solving, and critical thinking. Graduates will have an enhanced level of media literacy and deeper understanding of filmmaking as a communication strategy for dissemination of ideas. The curriculum supports the desire of the film industry for a stronger filmmaking workforce in Kentucky.

The Digital Editing for Film certificate program will provide students with a hands-on mastery of the post-production film process. Graduates will have a greater understanding of the post-production process from color grading, sound mixing, final edit, digital imaging and special effects. The curriculum supports the desire for a stronger post-production workforce in Kentucky.

The Core Filmmaking Skills certificate program will demonstrate a mastery of the filmmaking disciplines from production to post production. Students will learn a master level of various skills and learn where they best fit in the film industry, creating a stronger workforce for the growing film industry in Kentucky.

The Directing for Filmmaking certificate program will provide students hands on mastery of directing short films. This focuses on the acting and performance both in front of camera and learning the actor's process. This certificate will teach both camera and production skills, and also skills needed when working with actors.

## Degrees

- Filmmaking and Cinematic Arts - AFA (p. 347)

## Certificates

- Core Filmmaking Skills - Certificate (p. 348)
- Digital Editing for Film - Certificate (p. 348)
- Directing for Filmmaking - Certificate (p. 348)
- Filmmaking – From Script to Screen - Certificate (p. 348)

## Filmmaking and Cinematic Arts - AFA

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5006027039

Course	Title	Credits
<b>General Education Core Requirements</b>		
ENG 101	Writing I	3
ENG 102	Writing II	3
Oral Communications		3
Heritage or Humanities		3
Select one of the following four options:		3
MAT 110	Applied Mathematics	
MA 111U	Contemporary Mathematics	
MAT 146	Contemporary College Mathematics	
Higher Quantitative Reasoning Course		
Natural Sciences <sup>1</sup>		3-4
Social/Behavioral Sciences		6
Subtotal		24-25
<b>Digital Literacy</b>		
Digital Literacy must be demonstrated either by competency exam or 0-3 by completing an Approved digital literacy course.		
Subtotal		0-3
<b>Filmmaking and Cinematic Arts Core</b>		
FLM 112	Filmmaking: Treatment to Short Screen Play	4
FLM 122	Filmmaking: Storyboard through Production	4
FLM 132	Filmmaking: Editing through Distribution	4
FLM 140	Filmmaking: Lab	2

FLM 260	Cinematography	3
Select one of the following two options:		1-3
FLM 190	Film Boot Camp <sup>2</sup>	
FLM 191	Film Boot Camp (Short)	
Subtotal		18-20
<b>Filmmaking and Cinematic Arts Concentration</b>		
Select one of the following four suggested concentrations:		18
Digital Editing for Film (p. 347)		
Core Filmmaking Skills (p. 347)		
Directing for Filmmaking (p. 348)		
General Concentration (p. 348)		
Subtotal		18
<b>Total Credits</b>		<b>60-66</b>

<sup>1</sup> Must include a laboratory experience for general education certification in the Natural Sciences category.

<sup>2</sup> This course can be taken twice for credit. In order for it to count in the core and as an elective, students must pass the course twice for credit.

## Suggested Concentration: Digital Editing for Film

Course	Title	Credits
Filmmaking and Cinematic Arts Requirements		42-48
FLM 190	Film Boot Camp <sup>1</sup>	3
FLM 291	Cinematic Arts Internship	3
IMD 115	Introduction to Graphic Design	3
IMD 250	Digital Video Editing I	3
IMD 255	Digital Video Editing II	3
IMD 258	Visual Effects for Video	3
<b>Total Credits</b>		<b>60-66</b>

<sup>1</sup> This course can be taken twice for credit. In order for it to count in the core and as an elective, students must pass the course twice for credit.

## Suggested Concentration: Core Filmmaking Skills

Course	Title	Credits
Filmmaking and Cinematic Arts Requirements		42-48
FLM 190	Film Boot Camp <sup>1</sup>	3
IMD 250	Digital Video Editing I	3
FLM 261	Film Directing	3
FLM 291	Cinematic Arts Internship	3
FLM 299	Special Topics in FLM: TOPIC	3
FLM 162	Acting for Camera	3
or THA 126	Acting I: Fundamentals of Acting	
<b>Total Credits</b>		<b>60-66</b>

<sup>1</sup> This course can be taken twice for credit. In order for it to count in the core and as an elective, students must pass the course twice for credit.

## Suggested Concentration: Directing for Filmmaking

Course	Title	Credits
Flmmaking and Cinematic Arts Requirements		42-48
FLM 190	Film Boot Camp <sup>1</sup>	3
FLM 261	Film Directing	3
FLM 291	Cinematic Arts Internship	3
THA 126	Acting I: Fundamentals of Acting	3
THA 226	Acting II: Scene Study (Realism)	3
THA 227	Acting III: Scene Study (Styles)	3
<b>Total Credits</b>		<b>60-66</b>

<sup>1</sup> This course can be taken twice for credit. In order for it to count in the core and as an elective, students must pass the course twice for credit.

## Suggested Concentration: General Concentration

Course	Title	Credits
Flmmaking and Cinematic Arts Requirements		42-48
Select eighteen hours of the following 15 elective courses:		18
FLM 162	Acting for Camera	
FLM 190	Film Boot Camp <sup>1</sup>	
FLM 210	Screenwriting	
FLM 261	Film Directing	
FLM 291	Cinematic Arts Internship	
FLM 299	Special Topics in FLM: TOPIC	
IMD 115	Introduction to Graphic Design	
IMD 228	Advanced Photoshop	
IMD 240	Multimedia Development for the Web	
IMD 250	Digital Video Editing I	
IMD 255	Digital Video Editing II	
IMD 258	Visual Effects for Video	
THA 126	Acting I: Fundamentals of Acting	
Or other courses approved by Filmmaking and Cinematic Arts Program Coordinator		
<b>Total Credits</b>		<b>60-66</b>

<sup>1</sup> This course can be taken twice for credit. In order for it to count in the core and as an elective, students must pass the course twice for credit.

## Degree Requirements

Completion of minimum 60 credit hours; minimum cumulative 2.0 GPA; minimum of 15 credit hours earned at the institution awarding the degree; cultural competence course; and demonstration of digital literacy.

- Courses chosen to satisfy General Education requirements must be selected from an approved list which may be found in the KCTCS catalog.
- A course used to fulfill one category cannot be used to fulfill another category.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

## Core Filmmaking Skills - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5006023039

Course	Title	Credits
FLM 190	Film Boot Camp	3
FLM 261	Film Directing	3
IMD 250	Digital Video Editing I	3
FLM 291	Cinematic Arts Internship	3
FLM 299	Special Topics in FLM: TOPIC	3
FLM 162	Acting for Camera	3
or THA 126	Acting I: Fundamentals of Acting	
<b>Total Credits</b>		<b>18</b>

## Digital Editing for Film - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5006023029

Course	Title	Credits
FLM 190	Film Boot Camp	3
FLM 291	Cinematic Arts Internship	3
IMD 115	Introduction to Graphic Design	3
IMD 250	Digital Video Editing I	3
IMD 255	Digital Video Editing II	3
IMD 258	Visual Effects for Video	3
<b>Total Credits</b>		<b>18</b>

## Directing for Filmmaking - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5006023049

Course	Title	Credits
FLM 190	Film Boot Camp	3
FLM 261	Film Directing	3
FLM 291	Cinematic Arts Internship	3
THA 126	Acting I: Fundamentals of Acting	3
THA 226	Acting II: Scene Study (Realism)	3
THA 227	Acting III: Scene Study (Styles)	3
<b>Total Credits</b>		<b>18</b>

## Filmmaking – From Script to Screen - Certificate

**Offered at:** Bluegrass Community and Technical College

**Program Plan Number:** 5006023019



Course	Title	Credits
FLM 112	Filmmaking: Treatment to Short Screen Play	4
FLM 122	Filmmaking: Storyboard through Production	4
FLM 132	Filmmaking: Editing through Distribution	4
FLM 140	Filmmaking: Lab	2
FLM 162	Acting for Camera	3
or THA 126	Acting I: Fundamentals of Acting	
<b>Total Credits</b>		<b>17</b>

## Theatre Arts

The Associate in Fine Arts (AFA) in Theatre degree program is designed for students who plan to transfer to a four-year institution in order to pursue a BFA in the Theatre Arts and/or acquire credentials for a career in arts-related areas. The program includes general education requirements, Theatre foundation courses in acting and stagecraft, as well as a wide variety of performance and production-related electives. Students will focus on the development of performance skills and a basic knowledge of technical theatre, while participating firsthand in fully realized theatrical productions every semester. Classes will also encourage analytical skills and critical analysis. Students will be encouraged to participate in state and regional theatre auditions and festivals with audition pieces prepared specifically with an eye toward securing professional work.

## Degrees

- Theatre - AFA (p. 349)

## Theatre - AFA

**Offered at:** Bluegrass Community and Technical College, Owensboro Community and Technical College

**Program Plan Number:** 5005017019

Course	Title	Credits
<b>General Education Core Requirements</b>		
ENG 101	Writing I	3
ENG 102	Writing II	3
Oral Communications		3
Heritage/Humanities (not including THA classes)		3
Social/Behavioral Sciences		6
Natural Sciences with laboratory		4
Select one of the following three options:		3
MA 111U	Contemporary Mathematics	
MAT 150	College Algebra	
Higher Level Quantitative Reasoning Course		
<b>Subtotal</b>		<b>25</b>
<b>Theatre Core</b>		
Digital Literacy Course or demonstrated competency <sup>1</sup>		0-3
THA 101	Introduction to Theatre: Principles and Practice	3
THA 126	Acting I: Fundamentals of Acting	3
THA 226	Acting II: Scene Study (Realism)	3
THA 227	Acting III: Scene Study (Styles)	3
THA 260	Stagecraft	3
<b>Subtotal</b>		<b>15-18</b>
<b>Practicum Core</b>		

Complete 3 credit hours from the following courses:		3
THA 190	Production Practicum (may be repeated)	
THA 191	Performance Practicum (may be repeated to equal 3 hours)	
TA 195	Special Projects in Theatre Arts (Project Title)	
THA 196	Summer Theatre Workshop	
<b>Subtotal</b>		<b>3</b>
<b>Concentration</b>		
Select eighteen hours from the following 13 Approved Theatre Electives:		18
THA 127	Acting Techniques	
THA 150	Fundamentals of Production	
THA 200	Introduction to Dramatic Literature	
THA 283	American Theatre	
FLM 112	Filmmaking: Treatment to Short Screen Play <sup>2</sup>	
FLM 122	Filmmaking: Storyboard through Production <sup>2</sup>	
FLM 132	Filmmaking: Editing through Distribution <sup>2</sup>	
MUS 192	University Chorus	
ART 110	Drawing I	
ENG 281	Introduction to Film	
ENG 282	International Film Studies	
IMD 250	Digital Video Editing I	
Other Courses approved by program coordinator		
<b>Subtotal</b>		<b>18</b>
<b>Total Credits</b>		<b>61-64</b>

<sup>1</sup> A student must pass an approved three (3) credit hour digital literacy course unless the computer competency exam is successfully completed.

<sup>2</sup> FLM courses are co-requisites.

## Degree Requirements

Completion of minimum 60 credit hours; minimum cumulative 2.0 GPA; minimum of 15 credit hours earned at the institution awarding the degree; cultural competence course; and demonstration of digital literacy.

- Courses chosen to satisfy General Education requirements must be selected from an approved list which may be found in the KCTCS catalog.
- A course used to fulfill one category cannot be used to fulfill another category.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

## Visual Art

The Associate in Fine Arts (AFA) in Visual Art degree program is designed for students who plan to transfer to a four-year institution in order to pursue a BFA in the Visual Arts and/or a career in arts-related areas requiring pre-professional credentials. The program includes general education requirements, visual arts foundation courses in drawing, design and art history, as well as a wide variety of studio art electives. Students will focus on the development of artistic skills and a visual vocabulary for personal expression, while exploring both traditional and nontraditional art areas. Classes will also encourage analytical and creative problem-solving skills and experience in both verbal presentation

of ideas and critical concepts. A personal portfolio of artwork will be a tangible result of a student completing this program.

Degrees

- Visual Art - AFA (p. 350)

Visual Art - AFA

**Offered at:** Owensboro Community and Technical College, West Kentucky Community and Technical College

**Program Plan Number:** 5007027019

Course	Title	Credits
General Education Core Requirements		
ENG 101	Writing I	3
ENG 102	Writing II	3
Oral Communications		3
Arts & Humanities <sup>1</sup>		3
Social/Behavioral Sciences		6
Natural Sciences <sup>2</sup>		3
Quantitative Reasoning		3
Subtotal		24
Fine Arts Core		
ART 105	Ancient Through Medieval Art History	3
ART 106	Renaissance Through Modern Art History	3
ART 110	Drawing I	3
ART 112	2-Dimensional Design	3
ART 113	3-Dimensional Design	3
ART 210	Drawing II	3
Subtotal		18
Concentration		
Select eighteen credit hours from the following Approved Art Studio Electives:		18
ART 211	Life Drawing	
ART 220	Painting I	
ART 221	Painting II	
ART 231	Jewelry/Metals I	
ART 232	Jewelry/Metals II	
ART 240	Ceramics I	
ART 241	Ceramics II	
ART 251	Graphic Communication I	
ART 252	Typography	
ART 253	Graphic Communication II	
ART 254	Design Process and Presentation	
ART 260	Sculpture I	
ART 261	Sculpture II	
ART 270	Printmaking I	
ART 271	Printmaking II	
ART 280	Beginning Film Photography	
ART 281	Digital Photography I	
ART 282	Digital Photography II	
ART 290	Survival Skills for Artists	
ART 299	Directed Studies in Art: (Topic)	

Subtotal	18
Total Credits	60

- <sup>1</sup> The course chosen to satisfy this requirement must be from a discipline other than the discipline in the Fine Arts Core and/or Concentration.
- <sup>2</sup> Must include a laboratory experience for general education certification in the Natural Sciences category.

Degree Requirements

Completion of minimum 60 credit hours; minimum cumulative 2.0 GPA; minimum of 15 credit hours earned at the institution awarding the degree; cultural competence course; and demonstration of digital literacy.

- Courses chosen to satisfy General Education requirements must be selected from an approved list which may be found in the KCTCS catalog.
- A course used to fulfill one category cannot be used to fulfill another category.

Transitional courses (courses numbered 001-099) cannot be used to satisfy graduation requirements.

# COURSE DESCRIPTIONS

## Courses are numbered as follows:

- 001 through 099 – Orientation and developmental courses
- 100 through 199 – Undergraduate credit
- 200 through 299 – Undergraduate credit; sophomore classification may be required.

Modular courses have four number or alpha characters with the first three numbers representing the parent course, e.g., CIT 1051 Computer Basics (0.5 credit hours) is the first module of CIT 105 Introduction to Computers (3 credit hours). The last character denotes the sequence of the module with either a numerical or alpha character. Course descriptions are published for recently approved courses, and those that have been offered in the preceding two-year period. Other active courses may be offered that are not published in the printed catalog.

- Pre-requisite – course which must be satisfactorily completed before enrolling in course - (example: ACC 201 Financial Accounting (3 credit hours) is a pre-requisite for ACC 202 Managerial Accounting (3 credit hours))
- Co-requisite – course which must be taken at the same time as another course - (example: ACR 101 Refrigeration Fundamentals Lab (2 credit hours) is a co-requisite for ACR 100 Refrigeration Fundamentals (3 credit hours))

Users of the printed KCTCS Catalog should visit <https://catalog.kctcs.edu/course-descriptions/> to see Course Descriptions.

A robust Course Search is also available online at <https://catalog.kctcs.edu/course-search/>

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## A

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## 3D Printing (DPT)

### DPT 100 (3 credit hours)

#### Introduction to 3D Printing Technology

Provides an introduction to the world of additive manufacturing, or more commonly known as three-dimensional printing (3DP), and its applications in conjunction with computer technology. Introduces topics including computer hardware and software, 3D printing technology, file management, the Internet, email, the social web, sustainability, security, and computer and intellectual property ethics. Presents basic use of applications, programming, systems, and utility software. Integrated Lecture/Lab: 3 credit hours (60 contact hours).

**Attributes:** Digital Literacy, Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture



**DPT 102 (2 credit hours)****3D Printing Technology Fundamentals**

Provides an introduction to the world of three-dimensional (3D) printing or additive manufacturing (AM) and its applications. Introduces topics including 3D printing technologies, basic use of 3D applications, programming, systems, 3D-scanning, and utility software. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre- or co-requisite:** CIT 105, demonstration of digital literacy competency by exam or certificate, or other approved course with digital literacy status.

**Attributes:** Technical

**Components:** LEC: Lecture

**DPT 150 (3 credit hours)****Introduction to Engineering Mechanics for 3D Printing**

Provides an introduction to simplified engineering mechanical principles as they apply to 3D printing, or additive manufacturing, designs and products. Requires students to apply concepts related to simple force and stress analysis, material property selection, and deformation to their designs for the purpose of improving functional performance and overall printing success. Explores finishing and post processing techniques to enhance the final appearance and marketability of their printed work. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** DPT 100 or DPT 102.

**Attributes:** Technical

**Components:** LEC: Lecture

**DPT 210 (3 credit hours)****Introduction to Powder-Based Additive Manufacturing**

Prepares technicians for the advanced applications and utilization of powder-based additive manufacturing, or 3D printing, materials, and equipment.. Requires students to demonstrate knowledge of related safety, additive manufacturing processes, lightweighting, generative design, appropriate equipment utilization, and quality control methodologies. Directs students in applying finishing and post-processing techniques through the use of conventional machining equipment to enhance the final appearance, strength, and marketability of their work. Integrated Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** DPT 100, CIT 105.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**DPT 212 (3 credit hours)****Additive Manufacturing for Supply Chain and Broad Industry Production**

Prepares industry technicians and professionals for the use of additive manufacturing technologies, also known as 3D printing, to produce new or existing products in low-and-medium-run volumes in response to the variety of reasons for global supply chain disruption or to facilitate new product market entry. Focuses on using technology to quickly produce specialized products for critical industry sectors such as biomedical, aerospace, agricultural, transportation, and industrial equipment repair. Prepares technicians to employ additive manufacturing technologies to support, enhance, or even replace conventional injection molding for consumer and industrial products. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** DPT 150.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**DPT 280 (1 credit hours)****Special Projects for 3D Printing, Level I**

Allows the student to gain intermediate level experience in their prospective fields through projects and tasks assigned by the instructor and based on applications the student may one day experience as a professional. Focuses on various assignments and curriculum as determined by the program instructor. Lecture/Lab: 1.0 credits (30 contact hours)

**Pre-requisite:** DPT 100 or DPT 102.

**Attributes:** Technical

**Components:** LEC: Lecture

## Accounting (ACC)

**ACC 201 (3 credit hours)****Financial Accounting**

Presents generally accepted accounting principles used for the measurement and reporting of financial information in the financial statements. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Quantitative Reasoning College-Readiness or Consent of the Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**ACC 202 (3 credit hours)****Managerial Accounting**

An introduction to the use of accounting data within an organization to analyze and solve problems and to make planning and control decisions. Lecture: 3 credits (45 contact hours)

**Pre-requisite:** ACC 201 or ACT 101 and ACT 102.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**ACC 2011 (1 credit hours)****Financial Accounting-Accounting as an Information System**

Presents the accounting cycle and preparation of financial statements. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Sophomore Standing (30 credit hours) or Consent of Instructor.

**Components:** LEC: Lecture

**ACC 2012 (1 credit hours)****Financial Accounting-Accounting for Merchandising Businesses**

Presents accounting for merchandising businesses including inventories, receivables and internal control. and ACC 2011 or equivalent . Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Sophomore Standing (30 credit hours) or Consent of Instructor.

**Components:** LEC: Lecture

**ACC 2013 (1 credit hours)****Financial Accounting-Long Term Assets and Long Term Financing Activities**

Presents measuring and reporting of long term assets and long term financing activities. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Sophomore Standing (30 credit hours) or Consent of Instructor ACC 2011 and ACC 2012 or equivalent.

**Components:** LEC: Lecture

**ACC 201 (1 credit hours)****Cost Terms Concepts, and Classifications**

Introduces the student to managerial accounting, differentiates between financial and managerial accounting, and presents cost and cost behaviors. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** ACC 201 or (ACT 101 and ACT 102).

**Components:** LEC: Lecture

**ACC 202 (1 credit hours)****Planning and Control**

Presents performance evaluation, and methods of financial statement analysis. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** ACC 201.

**Components:** LEC: Lecture

**ACC 203 (1 credit hours)****Using Cost Data in Decision Making**

Introduces the student to master and capital budgets. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** ACC 202.

**Components:** LEC: Lecture

## Accounting (ACT)

**ACT 101 (3 credit hours)****Fundamentals of Accounting I**

Students are introduced to accounting terminology and general theoretical principles. The major focus of the course is on the accounting cycle and the communication of financial information to decision-makers. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ACT 102 (3 credit hours)****Fundamentals of Accounting II**

Basic financial accounting concepts and methods are expanded to include accounting for partnerships and corporations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACT 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACT 177 (3 credit hours)****Entrepreneurial Accounting**

Includes issues and concerns that are vital to small and medium-size businesses. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**ACT 196 (3 credit hours)****Payroll Accounting**

The design and implementation of modern payroll systems will be introduced in this course. Pre-Requisite: ACC 201 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**ACT 277 (3 credit hours)****Managerial Accounting Topics**

The study of the uses of accounting information in managerial planning and control of organizations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACC 202.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACT 279 (3 credit hours)****Computerized Accounting Systems**

Applying accounting concepts and principles by using accounting software, for both service businesses and merchandisers. Includes internal control principles for both manual and computerized accounting systems. Digital literacy 3.0 hours. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ACC 201 or ACT 101 and ACT 102 or concurrent enrollment in ACT 102.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**ACT 281 (3 credit hours)****Individual Taxation**

The study of the theory and applications of federal and individual income taxes will be emphasized. Lecture: 3.0 credit hours.

**Pre-requisite:** One semester of college accounting or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACT 286 (3 credit hours)****Financial Accounting Topics**

Additional in-depth exposure to financial accounting procedures for classifying, recording, reporting, and disclosure; intended primarily for students enrolled in the Accounting Technology AAS program and the Accounting Option in the Business Administration AAS Program. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACC 201 or ACT 101 and ACT 102.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACT 290 (1-3 credit hours)****Selected Topics in Accounting: (Topic)**

This course is designed to expand course offerings as new technology is developed, new issues evolve and/or to address local accounting issues.

Topics may vary from semester to semester at the discretion of the instructor; courses may be repeated with different topics to a maximum of six credit hours. Lecture: 1-3 hours. Prerequisite: Consent of instructor.

**Components:** LEC: Lecture

**ACT 295 (3 credit hours)****Corporate and Partnership Taxation**

Emphasizes the study of federal and state tax laws applying to corporations, partnerships, and other entities. Lecture 3.0 credits (45 contact hours).

**Pre-requisite:** ACT 281 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACT 1771 (0.6 credit hours)****Rationale for a Well Designed Accounting System**

Developing a well designed accounting system for the entrepreneur. Lecture: 0.6 credits (9 contact hours).

**Components:** LEC: Lecture

**ACT 1772 (0.6 credit hours)****Contractual and Legal Reporting Requirements**

Common contractual and legal reporting requirements. Lecture: 0.6 credits (9 contact hours).

**Pre-requisite:** ACT 1771 or consent of the instructor.

**Components:** LEC: Lecture

**ACT 1773 (0.6 credit hours)****Overview of Accounting for the Entrepreneur**

Overview of accounting for the entrepreneur. Lecture: 0.6 credits (9 contact hours).

**Pre-requisite:** ACT 1772 or consent of the instructor.

**Components:** LEC: Lecture

**ACT 1774 (0.6 credit hours)****Introduction to Computer Accounting Software to Record Basic****Accounting Transactions**

Computer accounting software to record basic accounting transactions. Lecture: 0.6 credits (9 contact hours).

**Pre-requisite:** ACT 1773 or consent of instructor.

**Components:** LEC: Lecture

**ACT 1961 (0.5 credit hours)****Payroll Records**

Introduces the records required for today's payroll or human resource manager. Covers the relationship between Payroll and Human Resources and their common laws. Concludes with salary computations and methods to compute Gross Payroll. Lecture: 0.5 credit (7.5 contact hours).

**Components:** LEC: Lecture

**ACT 1962 (0.5 credit hours)****Payroll Taxes**

Covers federal and state tax withholding and employer-side payroll expenses. Lecture: 0.5 credit (7.5 contact hours).

**Pre-requisite:** ACT 1961.

**Components:** LEC: Lecture

**ACT 1963 (0.5 credit hours)****Accounting for Payroll**

Covers federal and state unemployment laws and accounting for payroll. Lecture: 0.5 credit (7.5 contact hours).

**Pre-requisite:** ACT 1961.

**Components:** LEC: Lecture

**ACT 2791 (1 credit hours)****Computer Accounting Basics**

Presents accounting concepts and principles for a merchandiser using computerized accounting software. Digital literacy 3.0 hours. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** ACC 201 or ACT 101 and ACT 102 or concurrent enrollment in ACT 102.

**Components:** LEC: Lecture

**ACT 2792 (1 credit hours)****Computer Accounting Procedures**

Presents computerized accounting concepts and principles for businesses including service providers. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** ACT 2791.

**Components:** LEC: Lecture

**ACT 2793 (1 credit hours)****Advanced Features and Controls**

Presents accounting concepts and principles for new businesses, including merchandisers, and covers internal controls. Lecture: 1.0 credits (15 contact hours).

**Pre-requisite:** ACT 2792.

**Components:** LEC: Lecture

# Advanced Industrial Integrated Technology (AIT)

**AIT 100 (4 credit hours)****Power Generation and Utilization**

Introduces electrical, hydraulic, and pneumatic power systems used in industry. Provides theory and application of DC and AC, including three-phase power and theory and application of hydraulic and pneumatic power utilizing basic circuits. Lecture/Lab: 4.0 credits (90 contact hours). (30:1 Ratio Lab).

**Pre-requisite:** Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAL: Integrated Laboratory, LEI: Integrated Lecture

**AIT 110 (3 credit hours)****Power Distribution Systems**

Provides instruction in the use of electrical, hydraulic, and pneumatic power as it applies in industry. Covers AC/DC circuit analysis, single-phase and three-phase power including hydraulic and pneumatic power and basic principles of pressure and flow. Lecture/Lab: 3 credits (67.5 contact hours).

**Pre-requisite:** AIT 100 or consent of instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 120 (3 credit hours)****Equipment Installation**

Focuses on the installation of electrical, hydraulic, and pneumatic industrial systems. Emphasizes motor installation, wiring/box selection, conduit preparation and installation, hydraulic/pneumatic supply, piping, controls, and various lifting and rigging techniques. Lecture/Lab: 3.0 credits (75 contact hours). (30:1 Ratio Lab).

**Pre-requisite:** AIT 100 or consent of instructor.

**Attributes:** Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 130 (4 credit hours)****Measurement and Instrumentation**

Covers measurement and instrumentation concepts and applications, choice of proper instrumentation and calibration, manual and automated measurement processes. Lecture/Lab: 4.0 credits (90 contact hours). (30:1 Ratio).

**Pre-requisite:** AIT 140 or consent of instructor.

**Attributes:** Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 135 (3 credit hours)****Industrial Refrigeration - I**

Presents refrigeration fundamentals and associated components for individuals interested in safe, effective, and efficient maintenance and operation of industrial refrigeration equipment who may also be seeking RETA credentialing. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AIT 140 (4 credit hours)****Industrial Controls I**

Provides instruction in the integrated application of basic electrical and fluid power controls. Emphasizes electrical motor controls with starting, reversing, and stopping devices, as well as various hydraulic and pneumatic valves and speed control circuits. Prerequisite: AIT 110 or consent of instructor. Lecture/Lab: 4 credits (90 contact hours). (30:1 Ratio).

**Attributes:** Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 145 (6 credit hours)****Utility Technician I**

Introduces the basics of safely constructing power lines. Covers pole climbing techniques, bucket truck operation and digger/derrick operation. Provides introductory training on all power line construction tools and equipment. Lecture: 1 credit hour (15 contact hours). Laboratory: 5 credit hours (225 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 150 (4 credit hours)****Industrial Controls II**

Provides instruction in the integrated application of advanced industrial controls for electrical, hydraulic, and pneumatic systems. Emphasizes variable frequency drives, SCR speed controls, proximity sensor, hydraulic synchronization circuits, multi-pressure controls, and pneumatic logic circuits, and various flow control valves used in hydraulics and pneumatics. Prerequisite: AIT 140 or consent of instructor. Lecture/Lab: 4 credits (90 contact hours). (30:1 Ratio).

**Attributes:** Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 160 (1 credit hours)****Workplace Safety**

Focuses on General Industry safety practices as defined by the Occupational Safety and Health Administration. Covers PPE, hazard identification, walking and working surfaces, as well as other recognized workplace safety issues. Students will earn the OSHA 10-hour General Industry safety card upon successful completion of the course. Lecture: 1 credit hour (15 contact hours).

**Pre-requisite:** Reading assessment scores above KCTCS development placement level or successful completion of prescribed developmental courses.

**Attributes:** Technical

**Components:** LEC: Lecture

**AIT 200 (4 credit hours)****Process Management and Quality Control**

Emphasizes project team organization. Introduces the following concepts: cycle time, production time, first pass yield, and barrier identification. Introduces quality control including understanding acceptance criteria with tolerances, data collection, and data reporting. Lecture/Lab: 4.0 credits (90 contact hours). (30:1 Ratio Lab).

**Pre-requisite:** AIT 130 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules

**Components:** LEC: Lecture

**AIT 210 (4 credit hours)****Advanced Equipment Maintenance**

Focuses on maintenance techniques and procedures used with advanced and highly technical industrial machinery, including lubrication, V-belt and shaft drives, couplings, chain drives, bearings and seals, brakes and clutches, machine vibration and analysis, laser alignment, and troubleshooting techniques. Emphasizes the use of hand tools and precision measuring instruments. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses, and AIT 110 or consent of instructor.

**Attributes:** Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 220 (3 credit hours)****The Integrated Power Grid**

Introduces students to types of power plants that are tied to the electric grid other than fossil power plants. Provides overviews of nuclear, hydro, and many forms of renewable energy. Includes forms of alternative energy power plants such as solar, wind, and bio-mass power plants. Lecture: 3.0 (45 contact hours)

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**AIT 230 (3 credit hours)****Integrated Power Plant Operations**

Introduces students to main components found within a fossil power plant. Provides in-depth study of following systems: cooling water system, steam flow system, air flow system, gas flow system, and power distribution. Provides instruction in the integration of systems within a fossil fuel power plant, and preparatory instruction for the Edison Electrical Institute Examination. Lecture: 3.0 (45 contact hours).

**Pre-requisite:** AIT 220 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**AIT 235 (3 credit hours)****Industrial Refrigeration - II**

Offers a second level detailed presentation of primary components and systems utilized within industrial refrigeration plants for individuals interested in safe, effective, and efficient maintenance and operation of industrial refrigeration equipment who may also be seeking RETA credentialing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** AIT135.

**Attributes:** Technical

**Components:** LEC: Lecture

**AIT 245 (6 credit hours)****Utility Technician II**

Covers construction of power lines. Teaches framing and use of tools required in construction. Emphasizes safety in establishing a work zone and utilizing rescue techniques. Lecture: 1 credit hour (15 contact hours). Laboratory: 5 credit hours (225 contact hours). Covers construction of power lines. Teaches framing and use of tools required in construction. Emphasizes safety in establishing a work zone and utilizing rescue techniques. Pre-requisite: AIT 245. Lecture: 1 credit hour (15 contact hours). Laboratory: 5 credit hours (225 contact hours).

**Pre-requisite:** AIT 145, AIT 245.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**AIT 270 (2 credit hours)****Introduction to Robotics and Programmable Logic Controllers**

Examines fundamental architecture of programmable logic controllers as it pertains to industrial application and incorporates ladder logic principles, commonly used instruction language, editing, program navigation and program analysis. Includes the fundamentals of 6-axis robotics including manual manipulation, execution of existing robotic program file, modification of target parameters, and safety interlocks. Lecture: 1 credit hour (15 contact hour) Lab: 1 credit hour (30 contact hour)

**Pre-requisite:** AIT 1401 or consent of instructor.

**Attributes:** Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 290 (0.1-5 credit hours)****Selected Topics in Advanced Integrated Technology**

Includes selected topics in integrated technology, due to rapidly changing technology or in response to local needs. Covers topics which may vary from semester to semester at the discretion of the instructor. May repeat course with different topics to a maximum of five credit hours. Lecture/Lab: Varies by topic.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**AIT 299 (4 credit hours)****Advanced Electromechanical Concepts**

Investigates advanced concepts in electromechanical engineering. Includes advanced concepts in fluid power, motor controls, instrumentation, and automation controls. Required for students in the Advanced Integrated Technology program who want to pursue the Bachelor of Science Electromechanical Engineering Technology transfer agreement with Murray State University. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** AIT 1501 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**AIT 1001 (2 credit hours)****Basic Electrical Knowledge**

Introduces electrical power systems used in industry. Provides introductory theory and application of DC/AC circuits, control transformers, and operation of DC power supplies. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses or consent of instructor.

**Components:** LEC: Lecture

**AIT 1002 (1 credit hours)****Power Development**

Introduces electrical power systems used in industrial settings, including basic theory and application of alternators, electric motors, and three-phase. Integrated Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1001 or Consent of Instructor.

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**AIT 1003 (1 credit hours)****Hydraulic/Pneumatic Fundamentals**

Introduces basic theory and application of hydraulic and pneumatic industrial power systems. Integrated Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** Reading assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**AIT 1101 (1 credit hours)****Electrical Power Distribution**

Provides instruction in the use of electrical power as it applies in industry. Includes AC/DC circuit analysis, AC power generation and three-phase distribution systems, and transformers. Lecture/Lab: 1.0 credits (22.5 contact hours).

**Pre-requisite:** AIT 1001 or consent of instructor.

**Components:** LEC: Lecture

**AIT 1102 (2 credit hours)****Fluid Power Distribution**

Provides instruction in the use of hydraulic and pneumatic power as it applies to industry. Includes basic principles of pressure and flow, basic hydraulic/pneumatic circuits including pumps, valves, cylinders, and motors. Lecture/Lab: 2.0 credit (45 contact hours).

**Pre-requisite:** AIT 1003 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1201 (1 credit hours)****Electrical Installation**

Focuses on the installation of electrical industrial systems, including print reading, wiring/box selection, component installation, raceways and conduit, control wiring, and wiring techniques. Lecture/Lab: 1.0 credit (25 contact hours).

**Pre-requisite:** AIT 1101 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1202 (1 credit hours)****Piping, Pneumatic, & Installation**

Focuses on the installation of pneumatic industrial systems, including interpretation of drawings and diagrams, fabrication of pipe and pipefittings, pneumatic supply lines, piping safety, and pipe installation for pneumatic systems. Lecture/Lab: 1 credit (25 contact hours).

**Pre-requisite:** AIT 1102 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1203 (1 credit hours)****Mechanical Installation**

Includes motor and machine mounting, speed, torque, power measurement, and various lifting and rigging techniques. Lecture/Lab: 1 credit (25 contact hours).

**Pre-requisite:** Reading assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1301 (2 credit hours)****Principles of Instrumentation**

Introduces measurement and instrumentation concepts and applications by examining the four main components of instrumentation: temperature, pressure, flow, and level. Lecture/Lab: 2.0 credit (45.0 contact hours).

**Pre-requisite:** AIT 1401 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture



**AIT 1302 (2 credit hours)****Integrated Process Control**

Covers measurement and instrumentation concepts and applications and introduces the concept of loop controls and the proper calibration of loops. Examines the importance of PID controllers in a control loop. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** AIT 1301 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1401 (2 credit hours)****Basic Electrical Controls**

Provides instruction in the integrated application of basic electrical controls including electrical motor controls with starting, reversing, and stopping devices. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** AIT 1101.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1402 (1 credit hours)****Basic Pneumatic Controls**

Introduces the student to pneumatic speed control circuits. Uses air pressure regulators and flow controls to obtain cylinder speeds. Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1102 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1403 (1 credit hours)****Basic Hydraulic Controls**

Provides instruction in hydraulic speed and pressure control; includes flow control valves, metering circuits, pressure reducing valves, and sequence valves. Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1102 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1501 (2 credit hours)****Intermediate Electrical Controls**

Provides instruction in the integrated application of advanced industrial controls for electrical systems. Emphasizes variable frequency drives, proximity sensors, SCR speed controls. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** AIT 140 or AIT 1401 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1502 (1 credit hours)****Intermediate Pneumatic Controls**

Provides instruction in the integrated application of advanced industrial controls for pneumatic systems. Emphasizes pneumatic logic circuits. Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1402 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 1503 (1 credit hours)****Intermediate Hydraulic Controls**

Provides instruction in the integrated application of advanced industrial controls for hydraulic circuits. Emphasizes hydraulic synchronization circuits and multi-pressure circuits. Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1403 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 2002 (2 credit hours)****Quality Control and SPC**

Introduces quality control including understanding acceptance criteria with tolerances, data collection, and data reporting. Pre requisite: AIT 130 or Consent of Instructor. Lecture/Lab: 2.0 credits (45 contact hours).

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**AIT 2101 (1 credit hours)****Predictive/Preventive Maintenance and Lubrication**

Focuses on maintenance techniques and procedures used with advanced and highly technical industrial machinery. Pre requisite: AIT 1101 or consent of instructor. Lecture/Lab: 1.0 credits (22.5 contact hours).

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 2102 (1 credit hours)****Power Transmission Systems**

Focuses on maintenance techniques and procedures used with advanced and highly technical industrial machinery including v-belt and shaft drives, couplings, chain drives, bearings and seals, brakes and clutches.

Pre requisite: Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of

prescribed developmental courses or consent of instructor. Lecture/Lab 1.0 credit (22.5 contact hours).

**Components:** LEC: Lecture

**AIT 2103 (2 credit hours)****Advanced Mechanical**

Focuses on various installation methods required for advanced and highly technical industrial equipment components. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses or consent of instructor.

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**AIT 2701 (1 credit hours)****Introduction to PLCs**

Examines fundamental architecture of programmable logic controllers as it pertains to industrial applications and incorporates ladder logic principles, commonly used instruction language, editing, program navigation and program analysis. Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1401 or consent of instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**AIT 2702 (1 credit hours)****Introduction to Robotics**

Investigates underlying principles, applications and fundamentals of 6-axis robotics including manual manipulation, execution of existing robotic program file, modification of target parameters, and safety interlocks. Lecture/Lab: 1.0 credit (22.5 contact hours).

**Pre-requisite:** AIT 1401.

**Components:** LAB: Laboratory, LEC: Lecture

## Advanced Integrated Manufacturing (AIM)

**AIM 100 (3 credit hours)****Principles of Advanced Integrated Manufacturing**

Introduces the founding principles/practices of manufacturing safety and health in a modern manufacturing environment. Covers current manufacturing quality control concepts and techniques used in industry with an emphasis on proper statistical methods and relevant software. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AIM 110 (3 credit hours)****Manufacturing Processes and Materials**

Covers modern manufacturing processes and materials in the production of contemporary consumer and industrial products with an emphasis on front-line manufacturing production. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AIM 120 (3 credit hours)****Introduction to Modern Plastics Manufacturing**

Introduces common plastic processing techniques, various plastic materials and practical safety requirements for common processing in a plastics manufacturing facility. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours)

**Pre-requisite:** Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AIM 1101 (1 credit hours)****Industrial Materials and Safety**

Addresses safety in a traditional and CNC machining environment and introduces industrial materials and their properties. Lecture/Lab: 1.0 credits (20 contact hours)

**Pre-requisite:** Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Components:** LEC: Lecture

**AIM 1102 (1 credit hours)****Metal Removal and Metrology**

Introduces the science of measurement and metal removal fundamentals for various industrial processes and materials. Lecture: 1.0 credit (20 contact hours)

**Pre-requisite:** AIM 1101.

**Components:** LEC: Lecture

**AIM 1201 (1 credit hours)****Introduction to Plastics**

Introduces polymers and the plastic industry. Includes safety in the plastic manufacturing environment as well as the history of plastic polymers and industry advancements. Lecture: 1.0 credit (20 contact hours).

**Pre-requisite:** Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses.

**Components:** LEC: Lecture

**AIM 1202 (1 credit hours)****Plastic Formulation and Design**

Presents the different polymer formulations (polymerization) and applications. Discusses product considerations, design for manufacturability (DFM) and extrusion. Lecture/Lab: 1.0 credits (20 contact hours)

**Pre-requisite:** AIM 1201 or Consent of Instructor.

**Components:** LEC: Lecture

# Agriculture (AGR)

**AGR 101 (3 credit hours)****The Economics of Food and Agriculture**

Introduces the field of agricultural economics and some of the basic tools and concepts of decision-making. Illustrates concepts in terms of selected current social and economic issues including the role of agriculture in both a national and international dimension. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**AGR 115 (3 credit hours)****Agriculture Maintenance**

Provides a study of basic maintenance issues (electrical, plumbing, fencing, building construction and repair, and safety) that arise in farming operations; and the practical troubleshooting and problem solving techniques. Lecture/Lab: 3.0 credits (75 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 125 (3 credit hours)****Introduction to Fertilizers and Soils**

Introduces practical aspects of soils and fertilizers as related to plant growth and production. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AGR 130 (2 credit hours)****Field Applications in Agriculture**

Includes methods of solving many application problems encountered in agriculture using applied mathematical and logic skills. Emphasizes practical mathematical skills already acquired from secondary education to address agricultural situations involving computations necessary for upper level courses in agriculture. Requires some knowledge of agricultural situations. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** MAT 55 or equivalent placement level.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 135 (3 credit hours)****Herbaceous Plant Production**

Introduces the identification, selection, requirements, care, and use of herbaceous plant materials commonly found in food/agronomic production, including scientific name and common pests. Discusses Annuals, perennials, bulbs, and grasses. Lecture/Lab: 3.0 (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 140 (3 credit hours)****Issues In Agriculture**

Provides an introduction to agriculture and current issues pertaining to the agricultural industry. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 145 (3 credit hours)****Technology in Agriculture**

Provides students with a basic introduction to the newest technological advancements in the agricultural industry, including the involvement of computer-based applications. Introduces students to computer integrated management of agricultural operations, including livestock, crop, financial management, and recordkeeping. Develops understanding of equipment and farm monitoring technology and their integration with smart devices. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 150 (3 credit hours)****Agricultural Power**

Provides an introduction to farm equipment and their power units through classroom instruction that concentrates on specific principles that govern the equipment. Includes a lab that applies the principles learned in the classroom. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AGR 155 (3 credit hours)****Greenhouse Production**

Introduces students to the concept of controlled environment growing and plant management. Demonstrates plant production with greenhouse techniques. Discusses identification of diseases, insects, and plant disorders in the greenhouse. Identifies selection of plant and growth medium. Emphasizes plants for agricultural and food production. Lecture/Lab: 3.0 credits (75 contact hours)

**Pre-requisite:** AGR 135.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 160 (3 credit hours)****Horticultural Science**

A study of the practical principles and practices used in horticulture. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**AGR 170 (3 credit hours)****Introduction to Equipment, Machines, and Engines**

Provides an introduction to tractors, combines, balers, forage harvesters and windrowers and various attachments. Includes a study of the operation, adjustments, and repairs. Covers an introduction to engines in which theory and minor repairs will be discussed. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AGR 175 (2 credit hours)****Agriculture Marketing and Sales**

Enables students to gain a fundamental knowledge of marketing and sales strategies as they are directly related to the agriculture industry. Focuses on market research, marketing management, promotions, produce handling, packaging, distribution, customer relations and sales techniques. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 180 (2 credit hours)****Agricultural Internship I**

Provides the opportunity to broaden the educational experience through appropriate observation and individualizes work assignments related to the pre-requisite and/or co-requisite course objectives. The students will spend 80 hours of supervised field experience in an approved Agricultural Industry. Pre-requisite Or Lab: 2.0 credits (75 contact hours).

**Co-requisite:** (AGR 150 and AGR 140) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AGR 190 (2 credit hours)****Agricultural Internship II**

Provides the opportunity to broaden the educational experience through appropriate observation and individualized work assignments related to the pre-requisite and/or co-requisite course objectives. The students will spend 80 hours of supervised field experience in an approved Agricultural Industry. Lab: 2.0 credits (75 contact hours).

**Pre-requisite:** (AGR 125 and AGR 180 and AGR 170) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AGR 200 (2 credit hours)****Agricultural Internship III**

Provides the opportunity to broaden the educational experience through appropriate observation and individualized work assignments related to the pre-requisite and/or co-requisite course objectives. The students will spend 80 hours of supervised field experience in an approved Agricultural Industry. NOTE: Internship III is a variable credit (1-2 credit hours) with a total 2 credit hour program requirement. Students must take a minimum of one credit hour of Internship in their last semester of enrollment or after all agricultural classes have been completed. Lab: 2.0 credits (75 contact hours).

**Pre-requisite:** AGR 180 and AGR 190.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AGR 205 (3 credit hours)****Forage Management**

Includes the study of the management, production, and utilization of forage grasses and legumes for harvested and grazed production. Includes subject areas such as varieties selection, planting, calculating yields, production costs, growth management, and harvesting techniques. Focuses on annual and perennial legume and grass production. Emphasizes establishment, winter survival, fertilization, cutting management, forage storage, and variety selection. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 210 (3 credit hours)****Applications in Animal Technology**

Identifies the basic skills necessary to promote safe, adequate, and proper handling of various species of animals. Describes the proper technical applications necessary in the agricultural industry. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre- or co-requisite:** AGR 240.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**AGR 215 (3 credit hours)****Weed Management**

Examines the nature of crop/weed interactions and explores various weed control methods. Explores weed identification, biology, ecology, and modern management principles. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** AGR 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 220 (3 credit hours)****Computers In The Agricultural Environment**

Provides an introduction to computers as they relate to the agricultural environment. Lecture 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** CIS 100.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AGR 225 (3 credit hours)****Fruit and Vegetable Production**

Provides knowledge required for development of skills in the following areas: commercial vegetable production; variety selection; production methods; growth and development; harvesting; and pest control. Lecture/Lab: 3.0 credits (75 contact hours).

**Pre-requisite:** AGR 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 230 (3 credit hours)****Career Development in Agriculture**

Includes essential aspects of career preparation, entry, adjustment, and advancement in agriculture and related fields. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 235 (3 credit hours)****Field Crop Production**

Gain an understanding of the major U.S. field crops with emphasis on their growth requirements, development, uses, management, and physiology. Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** AGR 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 240 (3 credit hours)****Introduction to Animal Science**

Provides a limited overview of the farm species of livestock. Includes the study of major livestock breeds of beef and dairy cattle, sheep, swine, poultry, and horses. Covers management application for livestock production as well as production facilities. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AGR 245 (3 credit hours)****Pest Management**

Provides a study of agricultural pest control, including insects, diseases, and weeds, of common agricultural and horticultural crops. Discusses management techniques including chemical, biological, IPM, and organic methods. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** AGR 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 250 (3 credit hours)****Introduction to Plants/Crop Production**

Familiarizes students with the basic principles and theories involved in field crop production. Provides a limited understanding of how crops are grown as a prelude to growing crops successfully. Covers pest and pesticides as well as plant disease and protection. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AGR 255 (3 credit hours)****Crop Scouting**

Designed to give students a hands-on experience scouting crops to find and identify existing and potential problems related to crop growth and development, fertility, pest pressure, and similar yield reducers. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** AGR 235.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 260 (3 credit hours)****Introduction to Sustainable Agriculture**

Provides students with a clear perspective on the principles, history, and practices of sustainable agriculture in our local and global communities. Provides understanding of the challenges to sustainability in our present system of agriculture. Enables students to identify principles of sustainable agriculture as they relate to basic production practices. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 265 (2 credit hours)****Agriculture Business and Records**

Provides students with an introduction to farm business management and record keeping. Emphasis is placed on business structures, developing a business plan, budgeting and basic accounting principles, agriculture tax code, and record keeping. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 270 (3 credit hours)****Introduction to Organic Agriculture**

Introduces students to the theories, practice, and policy of organic agriculture. Topics covered include the history and the need for organic agriculture, fundamental organic farming practices, organic animal production, the National Organic Program, and economic and marketing considerations for organic products. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 275 (3 credit hours)****Value Added Production**

Provides students the knowledge and skills necessary to add economic value to raw farm products. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**AGR 280 (3 credit hours)****Livestock Management**

Covers management practices involved in the production of swine, horses, cattle, sheep and goats. Emphasizes selection, reproduction, feeding, diseases, marketing, handling, and parasite control. Laboratory exercises teach and reinforce livestock management techniques. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** AGR 240.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 285 (3 credit hours)****Farm Financial Management**

Provides an overview of the basic concepts needed to understand commodity futures and option markets. Discuss risks and rewards, as well as other topics needed to successfully trade in these markets. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** AGR 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**AGR 290 (3 credit hours)****Animal Nutrition**

Provides a basic understanding of nutrition and identify nutrient composition of feedstuffs and nutrient requirements of various species of livestock. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** AGR 240.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**AGR 295 (1 credit hours)****Agriculture Capstone**

Designed to be taken by the agriculture student in their final semester as a programmatic review to bridge previous courses together. This course seeks to ensure students are ready to enter the workforce upon graduation as well as pass the capstone exam. Lecture: 1.0 credit (15 contact hours).

**Pre- or co-requisite:** Sophomore Standing, Final Semester.

**Attributes:** Technical

**Components:** LEC: Lecture

## Air Conditioning and Refrigeration (ACR)

**ACR 100 (3 credit hours)****Refrigeration Fundamentals**

Introduces refrigerant piping and fundamentals of refrigeration including environmental issues associated with HVAC. Lecture: 3 credits (45 contact hours).

**Co-requisite:** ACR 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 101 (2 credit hours)****Refrigeration Fundamentals Lab**

Introduces fundamentals of refrigeration including environmental issues associated with HVAC and refrigerant piping. Develops proper hands-on techniques in the servicing and troubleshooting of basic systems. Stresses proper use and care of tools, equipment, materials, and safety. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** ACR 100.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 102 (3 credit hours)****HVAC Electricity**

Introduces students to basic physics of electricity. Covers Ohm's law; measuring resistance, voltage, ohms, watts and amps; constructing various types of electrical circuits; selecting wire and fuse sizes; and troubleshooting an electric motor and motor controls. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** ACR 103.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 103 (2 credit hours)****HVAC Electricity Lab**

Introduces students to basic physics of electricity. Provides for application of Ohm's law; and measure resistance, voltage, ohms, watts and amps; construct various types of electrical circuits; select wire and fuse sizes; and learn to troubleshoot an electric motor and motor controls. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** ACR 102.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 112 (3 credit hours)****Sheet Metal Fabrication**

The student will learn to make patterns and lay out and construct common sheet metal duct fittings. Lecture: 3 credits (45 contact hours).

**Co-requisite:** ACR 113.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 113 (2 credit hours)****Sheet Metal Fabrication Lab**

Provides lab time for students to lay out, cut, construct, and install common sheet metal duct fittings. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** ACR 112.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 130 (3 credit hours)****Electrical Components**

Defines the electrical components of an air conditioning system. Includes different types of line voltages, wiring diagrams and solid state devices. Emphasizes safety. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACR 102 with a grade of C or greater.

**Co-requisite:** ACR 131.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 131 (2 credit hours)****Electrical Components Lab**

Permits practice using different types of line voltages, reading wiring diagrams, and using solid state devices. Emphasizes safety. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ACR 102 with a grade of C or greater.

**Co-requisite:** ACR 130.

**Attributes:** Technical

**Components:** LAB: Laboratory



**ACR 170 (3 credit hours)****Heat Load/Duct Design**

Introduces fundamentals needed to calculate heat gain and heat loss, thereby determining air conditioner/furnace size which will be used to calculate the correct duct size. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 200 (3 credit hours)****Commercial Refrigeration**

Develops techniques for servicing and troubleshooting mechanical and electro-mechanical refrigeration components. Emphasizes electrical and refrigeration safety. Covers proper tool use and environmentally sound refrigerant handling. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (ACR 100 and ACR 101) with a grade of C or greater.

**Co-requisite:** ACR 201.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 201 (2 credit hours)****Commercial Refrigeration Lab**

Provides techniques in servicing and troubleshooting mechanical and electro-mechanical refrigeration components. Emphasizes electrical and refrigeration safety. Covers proper tool use and environmentally sound refrigerant handling. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** (ACR 100 and ACR 101) with a grade of C or greater.

**Co-requisite:** ACR 200.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 206 (5 credit hours)****Boilers**

Develops techniques for servicing, troubleshooting and performing preventive maintenance on steam generating systems. Emphasizes electrical and steam safety. Covers proper tool and instrument use and practices for the efficient applications on steam systems used in commercial and industrial settings. Lecture/Lab: 5.0 credits (105 contact hours).

**Pre-requisite:** ACR 102 and ACR 103.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 207 (5 credit hours)****Commercial HVAC Systems**

Develops techniques for servicing, troubleshooting and performing preventive maintenance on commercial HVAC systems. Emphasizes electrical and mechanical safety. Covers tools and instruments used in installing, troubleshooting, and performing preventive maintenance on commercial HVAC systems. Lecture/Lab: 5.0 credits (105 contact hours).

**Pre-requisite:** (ACR 100 and ACR 101 and ACR 102 and ACR 103) or Consent of the Instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**ACR 208 (4 credit hours)****Chillers**

Develops techniques for servicing, troubleshooting and performing preventive maintenance on high-pressure, low-pressure and absorption chilled water systems. Emphasizes electrical and safety. Covers proper tool and instrument use and practices for the efficient applications on chilled water systems used in commercial and industrial settings. Lecture/Lab: 4.0 credits (75 contact hours)

**Pre-requisite:** ACR 100 and ACR 102 and ACR 103.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 209 (4 credit hours)****Manual N Commercial Load Calculation and Design**

Covers fundamentals needed to calculate heat gain and heat loss for commercial buildings. Introduces design conditions, solar heat gain, ventilation, internal heat gains, psychometrics and distribution systems for air conditioning and heating, thereby determining the correct size of equipment needed for different commercial buildings. Lecture: 4.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 210 (3 credit hours)****Ice Machines**

Introduces operation, checking, adjusting and troubleshooting commercial ice makers. Covers adjusting, checking, cleaning and troubleshooting commercial ice machines. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (ACR 100 and ACR 102) with a grade of C or greater.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 237 (5 credit hours)****Building Controls I**

Develops techniques for servicing, troubleshooting, and performing necessary maintenance on modern building control system devices. Emphasizes electrical and mechanical safety. Covers equipment used in building control systems. Lecture/Lab: 5.0 credits (105 contact hours)

**Pre-requisite:** ACR 100 and (ACR 102 or comparable electrical course) and 10 semester credit hours of Building Controls Technician technical electives or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 238 (5 credit hours)****Building Controls II**

Develops techniques for configuring, tuning and troubleshooting a networked building control system. Covers networked field equipment and central computer-controlled building control systems. Lecture/Lab: 5.0 credits (105 contact hours).

**Pre-requisite:** ACR 237 or content of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 250 (3 credit hours)****Cooling and Dehumidification**

Explains working characteristics of air conditioning units with air and water cooled condensers. Covers line, low voltage and pneumatic controls. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (ACR 100 & ACR 101) with a grade of C or greater.

**Co-requisite:** ACR 251.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 251 (2 credit hours)****Cooling and Dehumidification Lab**

Prepares the student for installing, servicing, and troubleshooting air conditioning systems with water and air cooled condensers and line and low voltage. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** (ACR 100 & ACR 101) with a grade of C or greater.

**Co-requisite:** ACR 250.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 260 (3 credit hours)****Heating and Humidification**

Discusses principles of operation and application of heating systems from simple electric and fossil fuel furnaces through more complex systems such as oil burners, boilers, and hydronic systems. Concentrates on both line and control voltage circuitry pertaining to these systems. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACR 102 & 103 or EET 154 & 155 or ETT 112 & 113 or IMT 110 & 111 or consent from the instructor.

**Co-requisite:** ACR 262.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 262 (2 credit hours)****Heating and Humidification Lab**

Provides lab time for application of troubleshooting, checking, adjusting, and installing heating units currently in use. Laboratory 2.0 credits (60 contact hours)

**Pre-requisite:** ACR 102 & 103 or EET 154 & 155 or ETT 112 & 113 or IMT 110 & 111 or consent from the instructor.

**Co-requisite:** ACR 260.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 270 (3 credit hours)****Heat Pump Application**

Explains reverse cycle heating systems, defrost cycles, reversing valves, and auxiliary heating. Concentrates on line and control voltage circuitry pertaining to these units. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** [(ACR 100 and ACR 102) with a grade of C or greater] or Permission of Instructor.

**Co-requisite:** ACR 271.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 271 (2 credit hours)****Heat Pump Application Lab**

Provides for application of troubleshooting, checking, adjusting, and installing reverse cycle units. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** [(ACR 100 and ACR 102) with a grade of C or greater] or Permission of Instructor.

**Co-requisite:** ACR 270.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 290 (3 credit hours)****Journeyman Preparation**

Includes lectures, discussions, and presentations pertaining to the proper application of HVAC codes. Prepares the student to pass the Kentucky Journeyman HVAC licensing exam. (This class should be taken at the end of the program.) Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 291 (1 credit hours)****Special Problems I**

A course designed for the student who has demonstrated specific special needs. Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 293 (2 credit hours)****Special Problems II**

A course designed for the student who has demonstrated specific special needs. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 295 (3 credit hours)****Special Problems III**

A course designed for the student who has demonstrated specific special needs. Laboratory: 3 credits (135 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ACR 297 (3 credit hours)****Kentucky HVAC Master License Exam Preparation**

Includes lectures, discussions, and presentations pertaining to the proper application of HVAC codes. Prepares the student to pass the Kentucky Master HVAC licensing exam. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ACR 298 (2 credit hours)****Practicum**

Practicum provides supervised on-the-job work experience related to the student's education objectives. Students participating in Practicum do not receive compensation. Practicum: 2 credits (150 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**ACR 299 (2 credit hours)****Cooperative Education Program**

Co-op provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work. Co-op: 2 credits (150 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Air Force Studies (AFS)

**AFS 111 (1 credit hours)****Aerospace Studies I**

A course designed to provide the student with a basic understanding of the nature and principles of war, national power, and the Department of Defense role in the organization of national security. The student also develops leadership abilities by participating in a military organization, the cadet corps, which offers a wide variety of situations demanding effective leadership. Lecture: 1 credit (15 contact hours).

**Co-requisite:** AFS 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**AFS 112 (1 credit hours)****Leadership Laboratory I**

A course designed for development of basic skills required to be a manager, including communications, human relations, and administration of equal opportunity. Credit will not be granted toward the hours requirements for the degree. Pass/Fail only. Laboratory: 1 credit (45 contact hours).

**Co-requisite:** AFS 111.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AFS 113 (1 credit hours)****Aerospace Studies I**

A course designed to provide the student with a basic understanding of the contribution of aerospace power to the total U.S. strategic offensive and defensive military posture. The student also develops leadership abilities by participating in a military organization, the cadet corps, which offers a wide variety of situations demanding effective leadership. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** AFS 111.

**Attributes:** Other

**Components:** LEC: Lecture

**AFS 114 (1 credit hours)****Leadership Laboratory 1**

A continuation of AFS 113. A course designed to develop managerial skills including superior/subordinate relationships, communications, customs and courtesies, basic drill movements and career progression requirements. Credit will not be granted toward the hours requirements for the degree. Pass/Fail only. Laboratory: 1 credit (45 contact hours).

**Co-requisite:** AFS 113.

**Attributes:** Other

**Components:** LAB: Laboratory

**AFS 211 (1 credit hours)****Aerospace Studies II**

Introduces the study of air power from a historical perspective; focuses on the development of air power into a primary element of national security. Leadership experience is continued through active participation in the cadet corps. Lecture: 1.0 credit hour; leadership, laboratory, one hour.

**Pre-requisite:** AFS 111, 113 or PAS approval.

**Attributes:** Technical

**Components:** LEC: Lecture

**AFS 213 (1 credit hours)****Aerospace Studies II**

Provides a foundation for understanding how air power has been employed in military and non-military operations to support national objectives. Examines the changing mission of the defense establishment, with particular emphasis on the United States Air Force. Leadership experience is continued through participation in the cadet corps. Lecture, one hour; leadership laboratory, one hour per week.

**Pre-requisite:** AFS 111, 113 or PAS approval.

**Attributes:** Other

**Components:** LEC: Lecture

## Allied Health (AHS)

**AHS 100 (2 credit hours)****Human Growth and Development**

Course focus is on the promotion of health through assessment of individuals' growth and development across the life span. Consideration is given to the family, cultural, environmental, spiritual, and genetic influences when meeting basic human needs. Lecture: 2 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AHS 105 (3 credit hours)****Introduction to Health Occupations**

Basic health care concepts and skills for students interested in or planning a career in health care are introduced. Basic body mechanics, health care delivery systems, caregiver/client relationships, infection control, basic assessment skills, first aid, cardiopulmonary resuscitation certification, team-building skills and problem-based learning are included. Lecture: 2.5 credit hours (37.5 contact hours); Lab: .5 credit hours (30 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AHS 109 (4 credit hours)****Introduction to Body Structure and Functions**

Provides knowledge of the structure and function of the human body with emphasis on normalcy. Includes interaction of all body systems in maintaining homeostasis and promotes an understanding of health maintenance. Not intended as a general education science course. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AHS 115 (3 credit hours)****Medical Terminology**

A study of anatomical, physiological and pathological terminology with emphasis on word structures and definition of root words, suffixes, and prefixes from Greek and Latin. Additional emphasis is placed on spelling and pronunciation. Primarily designed for individuals preparing for a career in health care. No previous knowledge of Greek or Latin is required. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**AHS 120 (1 credit hours)****Medical Terminology**

Basic medical word techniques emphasizing anatomical, physiological and medical terms. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AHS 140 (3 credit hours)****Introduction to Public and Community Health**

Introduces students to the management of public health emergencies. Topics include human epidemics and pandemics, agricultural and plant diseases, and emergency medicine. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AHS 201 (3 credit hours)****Management Principles for Allied Health Providers**

Many allied health practitioners will assume the role of a manager during the course of their career. This course is designed to provide theory and application focusing on the development of strategies and skills to assume professional responsibilities in management and administration. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**AHS 203 (3 credit hours)****Diversity in Health Care**

Introduces students to health care consumers from various cultural backgrounds. Emphasizes the cultural heritage and diversity existing in contemporary society and cultural factors that affect nontraditional and underrepresented consumers' access to and use of health care resources. Broadens students' perception and understanding of health/illness and the variety of meanings these terms carry for members of differing sociocultural populations. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AHS 1151 (1 credit hours)****Medical Terminology Word Roots**

Emphasizes word structures and the definition of root words, suffixes, and prefixes from Greek and Latin. Lecture: 1 credit (15 contact hours).

**Components:** LEC: Lecture

**AHS 1152 (1 credit hours)****Basic Elements of Terminology**

Focuses on basic elements of medical words from Greek or Latin roots, together with additional emphasis on spelling and pronunciation. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** AHS 1151.

**Components:** LEC: Lecture

## American Military Studies (AMS)

**AMS 102U (2 credit hours)****Foundations of Agile and Adaptive Leadership**

This course is designed to acquaint the student with the fundamental skills necessary to be a leader, both in military and civilian context. Course also covers basic military map reading skills. Must be concurrent with AMS 250U. Lecture: 2 credits (30 contact hours).

**Co-requisite:** AMS 250U.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**AMS 250U (1 credit hours)****Basic Military Science Lab**

A hands-on practicum which exposes the student to the military skills required for basic technical and tactical competence to enter the Advanced Course. Laboratory, two hours per week and two week-end exercises. May be repeated to a maximum of four credits. Laboratory: 1 credit (46 contact hours).

**Attributes:** University Course (University of Kentucky)

**Components:** LAB: Laboratory

**University Course:** University of Kentucky

## American Sign Language (ASL)

**ASL 101U (3 credit hours)****American Sign Language I**

A functional-notional approach to learning beginning American Sign Language (ASL). Development of basic knowledge of and understanding of conversational ASL and cultural features of the language and community. Lecture: 3 credits (45 contact hours). Laboratory: 0 credits (15 contact hours).

**Attributes:** Foreign Language, Cultural Studies, University Course (Eastern Kentucky University)

**Components:** LAB: Laboratory, LEC: Lecture

**University Course:** Eastern Kentucky University

**ASL 102U (3 credit hours)****American Sign Language II**

Continued development of basic knowledge of and understanding of conversational ASL and cultural features of the language and community. Lecture: 3 credits (45 contact hours). Laboratory: 0 credit (15 contact hours).

**Pre-requisite:** ASL 101 with a minimum grade of C or permission of instructor.

**Attributes:** Foreign Language, Cultural Studies, University Course (Eastern Kentucky University)

**Components:** LAB: Laboratory, LEC: Lecture

**University Course:** Eastern Kentucky University

**ASL 201U (3 credit hours)****American Sign Language III**

Development of intermediate expressive and receptive ASL skills and cultural features of the language and community. Lecture: 45 contact hours. Laboratory: 15 contact hours.

**Pre-requisite:** ASL 102 with a minimum grade of C or permission of instructor.

**Attributes:** Foreign Language, University Course (Eastern Kentucky University)

**Components:** LAB: Laboratory, LEC: Lecture

**University Course:** Eastern Kentucky University

**ASL 202U (3 credit hours)****American Sign Language IV**

Continued development of intermediate expressive and receptive ASL skills and cultural features of the language and community. Lecture: 3 credits (45 contact hours). Laboratory: 0 credits (15 contact hours).

**Pre-requisite:** ASL 201 with a minimum grade of C or permission of instructor.

**Attributes:** Foreign Language, University Course (Eastern Kentucky University)

**Components:** LAB: Laboratory, LEC: Lecture

**University Course:** Eastern Kentucky University



# Anatomy and Neurobiology (ANA)

## ANA 209 (3 credit hours)

### Principles of Human Anatomy

The structure of the human body will be examined at various levels: cellular, tissues and organ systems. The gross anatomical arrangement of the body will be studied in a system-by-system format relating structure to function and the fundamentals of human embryology/malformation with adult anatomy. The central nervous system will be emphasized. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Introductory biology or zoology.

**Attributes:** SN - Science

**Components:** LEC: Lecture

# Anthropology (ANT)

## ANT 101 (3 credit hours)

### Introduction to Anthropology

Introduces the student to the study of human cultures, past and present. Offers a comprehensive introduction to anthropology, emphasizing the concepts and methods of the major sub-fields i.e., cultural, biological, archaeology, and linguistics. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 130 (3 credit hours)

### Introduction to Comparative Religion

Introduces students to a comparative analysis of world religions, emphasizing beliefs, rituals, artistic expressions, and cultural and social organization. Includes both Eastern and Western religions. (Same as REL 130). Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 160 (3 credit hours)

### Cultural Diversity in the Modern World

Introduces the student to the diversity of human cultural experience in the contemporary world. Focuses on gaining an appreciation for the common humanity and uniqueness of all cultures; creating sensitivity toward stereotypes and ethnocentrism, and understanding the distinctions between 'race', ethnicity and racism. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 220 (3 credit hours)

### Introduction to Cultural Anthropology

Examines variations in beliefs, behaviors, and institutions of different peoples. Acquaints the student with knowledge of how anthropological concepts and knowledge are used to understand and appreciate cultural diversity. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading courses.

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 221 (3 credit hours)

### Native People of North America

Surveys the aboriginal Native American cultures of North American, and of the impact of four centuries of British, French, Spanish and Russian contact on the Indian communities. Consider the status of Native Americans in present-day North America. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 223 (3 credit hours)

### Culture Change and Globalization

Introduces the historical development of anthropology, its role in colonialism and globalization, and types of cultural change processes. Includes discussions of how human societies have struggled for political and economic identity in a post-colonial world and for cultural survival and self-determination. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** ACT, COMPASS, or ASSET scores for college level reading or completion of developmental reading courses.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 230 (3 credit hours)

### Introduction to Biological Anthropology

Explores the ways in which biology, the environment and culture come together to form the human condition. Acquaints the student with topics including human genetics, human evolution, primate behavior, contemporary human variation and applied biological anthropology. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

## ANT 231 (1 credit hours)

### Biological Anthropology Laboratory

Emphasizes basic laboratory studies in identifying principles of the evolution, ecology, and morphology of hominins and primates. Laboratory: 1 credit (30 contact hours).

**Pre- or co-requisite:** ANT 230.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

## ANT 235 (3 credit hours)

### Food and Culture

Examines the way values and behaviors related to food production and consumption are shaped by the physical and cultural environment. Draws data from non-Western and Western cultures. Discusses implications of cultural factors for contemporary issues in nutrition. Lecture: 3 credits (45 contact hours)

**Pre-requisite:** ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading courses.

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## ANT 240 (3 credit hours)

### Introduction to Archaeology

Introduces the theories, techniques, and strategies used by archaeologists to recover and interpret information about past cultures. Lecture: 3 credits (45 contact hours)

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture



**ANT 241 (3 credit hours)****Origins of Old World Civilization**

Surveys cultural developments in the Old World from the earliest times to the beginning stages of civilization. Lecture: 3 credits (45 contact hours)

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**ANT 242 (3 credit hours)****Origins of New World Civilization**

Surveys the origin and growth of prehistoric Native American cultures as revealed by archaeological data. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## Applied Engineering Technology (AET)

**AET 102 (4 credit hours)****Introduction to Energy**

Introduces the scientific principles of energy and fuels and investigates specific topics: nature and extent of energy resources, economics and environmental effects, alternative energy, energy technology, health and safety. Lecture/Lab: 4.0 credits (75 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AET 110 (4 credit hours)****Introduction to Circuit Analysis**

Covers basic electrical components as well as DC/AC circuit configurations; introduces the theory and operation of solid state devices such as diodes, BJTs, FETs, and operational amplifiers; emphasizes circuit construction, analysis, and troubleshooting. Lecture/Lab: 4.0 credits (75 contact hours).

**Co-requisite:** MT 125 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**AET 114 (4 credit hours)****Solar and Wind Energy Generation**

Introduces the methods and equipment necessary for the production of electrical energy by alternative means to include photovoltaic systems, wind turbines and solar water heating. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** AET 110 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**AET 190 (4 credit hours)****Industrial Computer Programming Concepts**

Covers programming concepts specifically directed toward industrial programmable devices such as PLCs. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**AET 250 (4 credit hours)****PLC Networking**

Introduces the basic concepts in PLC networking to include networking protocols specific to industrial controllers, ASCII codes, bus topologies, and handling of remote I/O. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** AET 190.

**Attributes:** Technical

**Components:** LEC: Lecture

**AET 270 (4 credit hours)****Advanced PLC Programming**

Introduces the student to the wide range of capabilities, beyond basic programming needs, which are available to the modern PLC user.

Includes data Manipulation; shift register and sequencer instructions; binary, octal and hexadecimal numbering systems; and analog inputs and outputs. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** EET 276 and EET 277.

**Attributes:** Technical

**Components:** LEC: Lecture

## Applied Process Technology (APT)

**APT 102 (4 credit hours)****Process Fundamentals**

Presents fundamental knowledge necessary for process operations.

Develops an understanding of the basic principles of process operations.

Covers the fundamental areas of physics, chemistry, and mathematics necessary to understand their complex relationship in industry. Includes topics on fluid behavior, fluid in motion, piping and valves, and the laws and nature of heat. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (120 contact hours).

**Pre-requisite:** Test at MAT126 eligible or MAT 65 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**APT 104 (3 credit hours)****Rotating and Reciprocating Equipment**

Presents fundamental knowledge necessary for process operations

and entry-level maintenance personnel. Develops an understanding of

mechanical energy and the way it is put to use in industrial applications.

Covers various forms of energy and how this energy can be converted

to perform work. Includes topics on operating instructions, basic

troubleshooting skills, and basic maintenance skills typically performed

by personnel on pumps, compressors, and prime movers. Lecture: 1.0

credit (15 contact hours). Laboratory: 2.0 credits (120 contact hours).

**Pre-requisite:** Test at MAT126 eligible or MAT 65 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**APT 106 (2 credit hours)****Process Chemistry**

Presents fundamental knowledge of chemistry necessary for process

operations. Focuses on the basics of chemistry as they apply to water

treatment and hydrocarbon processing. Includes, but are not limited to:

basic chemical terminology, molecular formulas, structural formulas,

common chemical symbols, and the chemical nature of the operator's

job, work environment, and products. Lecture: 2.0 credits (30 contact

hours).

**Pre-requisite:** Test at MAT126 eligible or MAT 65 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 108 (2 credit hours)****Stationary Equipment**

Presents fundamental knowledge in the operation and troubleshooting of stationary equipment. Provides a solid foundation on which to build sound maintenance and operations programs. Covers common equipment designs, operating instructions, troubleshooting aids to help identify malfunctions, guides to handling emergency situations and routine scheduled maintenance tasks. Includes topics on heat exchangers, heat transfer, cooling towers, and refrigeration. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Test at MAT126 eligible or MAT 65 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**APT 142 (4 credit hours)****Instrumentation**

Develops an understanding of how to control and operate processes. Involves work on real life simulators to ensure an understanding of process operations has been achieved. Includes measurement fundamentals and control strategies as applied to unit operations, industrial chemical operations, and operating tactics and strategies. Provides basic instruction in process control instrumentation as it relates to the manufacturing operations and will promote smoother, more efficient control of automated systems. Lecture/Lab: 4.0 credits (105 contact hours).

**Pre-requisite:** APT 108 with a grade of "C" or greater OR Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 144 (4 credit hours)****Process Operations**

Develops an understanding of modern processing techniques, practical examples of normal and abnormal operating situations, and advanced training in enhancing productivity while cutting operating costs. Provides maintenance personnel and technicians an understanding of the overall process and their roles in maintaining efficient production rates. Involves work on real life simulators to insure an understanding of process operations. Includes unit operations, industrial chemical operations, and a variety of equipment used in industrial processes. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (120 contact hours/60:1 ratio).

**Pre-requisite:** APT 108 with a grade of C or greater or Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**APT 146 (2 credit hours)****Process Applications**

Develops an understanding of how to control and operate processes. Involves work on real life simulators to insure an understanding of process operations. Includes a study of interactive control strategies in unit operations, industrial chemical operations, and compressor operations and applications. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** APT 108 with a grade of C or greater or Permission of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 148 (2 credit hours)****Process Operation Safety**

Develops an understanding of how to safely start-up, shutdown, control and operate industrial processes. Includes safe operating tactics and strategies, and procedures as they apply to unit operations and industrial chemical operations. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** APT 108 with a grade of C or greater or Permission of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 154 (6 credit hours)****Power Plant Practice**

Develops an understanding of power plant basics, systems, and equipment and how they are utilized to safely start-up, shutdown, control, and operate a power generation unit. Includes safe operating tactics, strategies, and procedures as they apply to normal and abnormal unit operations. Applies various safety and protection equipment and procedures to unit operations. Lecture: 4 credits (60 contact hours). Laboratory: 2 credits (120 contact hours).

**Pre-requisite:** APT 108 with a grade of C or greater.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**APT 156 (2 credit hours)****Power Plant Protection**

Develops an understanding of how to safely start-up, shutdown, control and operate a power generation unit. Includes safe operating tactics, strategies, and procedures as they apply to unit operations and various safety and protection equipment incorporated into unit operations. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** APT 108 with a grade of C or greater.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**APT 158 (3 credit hours)****Lineman Technology I**

Trains the student in the use of and/or assembly of materials, tools, and equipment common to the electric utility industry. Provides an overview of the energy delivery system, personal responsibility in regard to safety and job requirements, qualifies the student to climb poles, and trains the student to perform tasks typically required of entry-level apprentices. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** APT 108 or Consent of Instructor.

**Co-requisite:** APT 159, EET 150, EET 151.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 159 (4 credit hours)****Lineman Technology I Lab**

Provides hands on experience in the use of and/or assembly of materials, tools, and equipment common to the electric utility industry. Provides an opportunity for the student to climb poles and perform tasks typically required of entry-level apprentices. Laboratory: 4 credits (240 contact hours).

**Pre-requisite:** APT 108 or Consent of Instructor.

**Co-requisite:** APT 158, EET 150, EET 151.

**Attributes:** Technical

**Components:** LAB: Laboratory

**APT 202 (3 credit hours)****Federally Mandated Training**

Presents a fundamental knowledge of OSHA, EPA and DOT regulations as concerned with hazardous waste generators and the fundamental knowledge necessary for process operations to qualify for hazardous response to incidents. Covers the required skills to qualify them for HAZWOPER Operations level response. Includes, but are not limited to: HAZCOM, HAZWOPER Operations level, personal protective equipment, working at elevated heights, respirators, SCBAs, and specific hazardous materials. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 204 (1 credit hours)****Safety Skills Training**

Presents a fundamental knowledge of OSHA, EPA and DOT regulations as concerned with hazardous waste generators. This fundamental knowledge is necessary for process operations to qualify for hazardous response to incidents. The student will be trained in the required skills to qualify them for HAZWOPER Operations level response. The course studies include, but are not limited to: Hazcom, Hazwoper Operations level, personal protective equipment, working at elevated heights, respirators, SCBAs, and specific hazardous materials. (This course will be presented in a semester format.) Laboratory: 1 credit (60 contact hours/60:1 ratio).

**Pre-requisite:** APT 148 with a grade of C or greater.

**Co-requisite:** APT 202.

**Attributes:** Technical

**Components:** LAB: Laboratory

**APT 251 (2 credit hours)****Application of Process Operations**

Prepares the student to demonstrate a working knowledge of the application of the various components involved in process operations. Lecture/Lab: 2.0 credits (75 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 258 (3 credit hours)****Lineman Technology II**

Expands training in the use of and/or assembly of materials, tools, and operation of equipment common to the electric utility industry. Provides pole top rescue techniques, Kilo-Watt Hour (KWH) meter reading, installation of overhead service, voltage testing, operation of bucket truck, splicing and other knowledge and skills typically required of intermediate-level apprentices. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** APT 158, APT 159, EET 150, EET 151, OR EGY 170.

**Co-requisite:** APT 259.

**Attributes:** Technical

**Components:** LEC: Lecture

**APT 259 (4 credit hours)****Lineman Technology II Lab**

Provides hands on experience in the use of and/or assembly of intermediate materials, tools, and equipment common to the electric utility industry. Provides an opportunity for the student to load/unload and set poles, operate bucket truck and other hydraulic equipment, and perform tasks typically required of intermediate-level apprentices. Laboratory: 4 credits (240 contact hours).

**Pre-requisite:** APT 158, APT 159, EET 150, EET 151.

**Co-requisite:** APT 258.

**Attributes:** Technical

**Components:** LAB: Laboratory

**APT 291 (2-3 credit hours)****Special Problems in Applied Process Technologies**

Provides additional experience in identified areas of student's need. The subject area and/or tasks must be approved by an assigned instructor. Must also have a component where the student is evaluated by an industry professional. Discussion: 2.0 - 3.0 credits (45-135 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** DIS: Discussion

**APT 299 (1-6 credit hours)****Cooperative Education Program**

For students approaching the major career transition from college to work as a co-op student. Provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Co-op Education program receive compensation for their work. Co-Op: 1-6 credits (75-450 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Apprenticeship Studies (APS)

**APS 101 (2 credit hours)****Introduction to Apprenticeships in the Workplace**

Explores student career opportunities that are available through apprenticeships. Examines the changing workforce and the skills needed to adapt to constantly changing demands and expectations. Explores topics including life-skills, Lean Concepts, time management and self-management. Lecture: 2 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**APS 201 (10-40 credit hours)****Apprenticeship Studies**

Complements specialized study in a national or state approved apprentice curriculum (i.e. 2000 hours per year on the job in a supervised work environment and 144 hours per year of related classroom instruction). Integrated Lecture/Lab: 10-40 credit hours (144 contact hours).

**Pre-requisite:** Completion of national/state certified apprenticeship program.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

# Architectural Technology (ACH)

## ACH 100 (3 credit hours)

### Construction Documents I

This is the first course of a four-semester studio sequence. Proper methods and fundamentals of architectural construction documents and residential construction will be introduced. Drafting conventions utilizing basic hand drafting tools and computer-aided drawing techniques will be studied. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Attributes:** Computer Literacy, Technical

**Components:** LAB: Laboratory, LEC: Lecture

## ACH 110 (1 credit hours)

### Survey of the Architectural Profession

In this course, the student will gain an understanding of the language of architecture and develop an appreciation for building design strategies through direct analysis. In addition, various career opportunities in architecture and related professions will be explored. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 120 (3 credit hours)

### Theory and History of Architecture I

The development of architecture as it is related to world culture with an emphasis on design, structure, materials, eco-social, and political factors are considered. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 150 (3 credit hours)

### Construction Documents II

This is the second course of a four-semester studio sequence. Students develop architectural construction documents for multi-level framed construction. Students will further develop an understanding of programming, schematics, design development, and construction document production using current computer-aided technology. Emphasis will be placed on building codes and related discipline coordination. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** ACH 100 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## ACH 160 (3 credit hours)

### Building Materials and Construction I

The essentials of the theory of selected building materials (Construction Specifications Institute, Divisions 2-7) and their assembly in appropriate systems are presented with particular attention to component selection and behavior under various loads, climatic conditions and fire. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 161 (3 credit hours)

### Building Materials and Construction II

The essentials of the theory of selected building materials (Construction Specifications Institute, Divisions 7-16) and their assembly in appropriate systems are presented with particular attention to component selection and behavior under various loads, climatic conditions and fire. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 170 (3 credit hours)

### Theory and History of Architecture II

A survey of the architectural periods from the neo-classic to the present is presented. This course is a continuation of ACH 120. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 175 (3 credit hours)

### Introduction to Systems

An overview of the various systems found in buildings and the influences that shape architectural design and construction is presented. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 180 (1-3 credit hours)

### Selected Topics in Architectural Technology (Topic)

The subject matter of this course may vary from semester to semester as new technology is developed and new issues evolve and/or to address local architectural issues. This course may be repeated with different topics to a maximum of six credit hours. Lecture: 1-3 credits (15-45 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## ACH 194 (3 credit hours)

### Visual Composition

In this course, the student will study the aesthetic principles found in both two-dimensional and three-dimensional compositions. These principles will be applied in exercises involving drawing, model construction and creative writing. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (120 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## ACH 195 (3 credit hours)

### Computer Aided Drafting I

Students learn how computer hardware and software are used in preparing architectural documents. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## ACH 198 (1-3 credit hours)

### Practicum in Architectural Technology

Provides supervised, on-the-job work experience related to the student's educational objectives; students who participate in the practicum do not receive compensation. cumulative GPA of 2.0 in all courses. Practicum: 1.0 - 3.0 credits (40-120 contact hours).

**Pre-requisite:** Completion of a minimum of 12 hours in Architectural Technology (ACH) courses with a min.

**Attributes:** Technical

**Components:** PCM: Practicum



**ACH 200 (3 credit hours)****Construction Documents III**

This is the third course of a four-semester studio sequence. Students study the methods by which commercial buildings are designed and constructed. Basic skills are developed relating to the implementation of determinants in this process such as program analysis, applicable codes, construction methods and materials as well as computer applications. Through the completion of a series of structured projects including the preparation of a set of architectural construction documents for a medium-sized building, students apply the knowledge necessary to achieve these goals. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** ACH 150 and ACH 185/ACH 195 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ACH 225 (3 credit hours)****Structures**

Students study structural materials and systems including the design of simple structural components. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 175 and MAH 125, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 250 (3 credit hours)****Construction Documents IV**

This is the fourth course of a four-semester studio sequence. Students prepare a set of advanced construction documents using current computer-aided drafting techniques. Emphasis will be placed on design principles and site development for a commercial construction project. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** ACH 200 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ACH 260 (3 credit hours)****Office Practice**

This course is intended to serve as a capstone course in the Architectural Technology program. Emphasis is placed on preparing students for the workplace by focusing on the professional, legal, and business aspects of the architectural and construction industries. Case studies are reviewed and projects are prepared by students with the goal of introducing them to a broader set of circumstances that affect how decisions are made in the practice of architecture. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 110 and ACH 200 or equivalent.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 275 (3 credit hours)****Mechanical and Electrical Systems**

Students engage in a qualitative and quantitative study of environmental control systems used in buildings. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 175 and MAT 125, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 280 (2 credit hours)****Revit/Building Information Modeling**

Introduces Building Information Modeling (BIM) using Autodesk Revit or other similar and related software, methods and processes. Provides students with skills to produce and present residential and commercial design models, construction documents, and to extract information and data from the model. Incorporates investigations into issues related to sustainable design and the integration of other software for related analysis. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** ACH 195, or consent of instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**ACH 290 (3 credit hours)****Building Codes I**

Students will analyze the content and format of current building codes. The necessity for building codes, problems in interpretation and application as well as legal aspects will be discussed. The main objective is to familiarize students with the basic provisions and procedures associated with building code administration. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 150 and ACH 160, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 291 (3 credit hours)****Construction Management**

Students examine the principles and current practices of construction management with emphasis on project organization, scheduling and cost control. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ACH 150, ACH 160 and ACH 161, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 292 (3 credit hours)****Building Codes II**

This course will be continuation of ACH 290, Building Codes I, with a more in-depth study of current building codes. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 290 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 293 (3 credit hours)****Presentation Techniques**

Students will explore a variety of presentation and rendering techniques used in the architectural profession. Design skills and the understanding of spatial relationships will be further developed. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** ACH 100 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ACH 294 (3 credit hours)****Specification Writing**

This course provides an in-depth study of the importance of specifications in the design and construction process. Students will engage in research, evaluate the quality of building materials, study the methods of writing specifications, and gain exposure to industry-standard software in preparing a variety of specifications. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 150, ACH 160, ACH 161, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



**ACH 295 (3 credit hours)****Computer Aided Drafting II**

Students learn how to modify selected computer aided drafting software to enhance construction document production. Integration of other software will also be discussed. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ACH 195 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ACH 297 (3 credit hours)****Estimating Techniques**

Students investigate the factors affecting the cost of construction, labor productivity, materials, overhead and profit, including area and volume computations. Current methods of cost estimating will be applied.

Lecture: 2.5 credits (37.5 contact hours); Laboratory: 0.5 credits (15 contact hours).

**Pre-requisite:** ACH 150 and MAT 125; or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ACH 298 (3 credit hours)****Computer 3D Modeling**

Students learn how computer hardware and software are used in preparing 3D architectural drawings and client-oriented presentations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACH 150 and ACH 185 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Art (ART)

**ART 100 (3 credit hours)****Introduction to Art**

Provides a basic overview of the study, language, history and cultural relevance of visual art and is designed primarily for non-art majors. Utilizes visually-enhanced lectures and may include optional introductory studio experiences. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Course Also Offered in Modules

**Components:** LEC: Lecture

**ART 104 (3 credit hours)****Introduction to African Art**

Examines the arts of Africa, including sculpture, painting, pottery, textiles, architecture, altar arts, human adornment and performance art, on the basis of style, iconography, and function, and in relation to religious, political, market and daily contexts. Explores the ways in which Africa has been conceived and deconstructs the assumptions shaping each approach. Addresses the processes (and problems) of collecting and displaying African art throughout the course. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 105 (3 credit hours)****Ancient Through Medieval Art History**

Surveys the historical development of art and architecture with primary emphasis on cultures of Egypt, Western Asia, Greece, Rome and Medieval Europe. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 106 (3 credit hours)****Renaissance Through Modern Art History**

Surveys the historical development of Western art and architecture from the 14th Century through the present. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 108 (3 credit hours)****Introduction to World Art**

Provides a basic overview of the study, language, history, and relevance of the visual art from world cultures and designed primarily for non-art majors. Utilizes visually-enhanced lectures and may include optional introductory visual experiences. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** RDG 185, ENC 91.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 109 (3 credit hours)****Women in Art & Art History**

Provides a basic overview of the visual art, artistic contributions, and lives of artists who identify as women from a global perspective. Utilizes visually-enhanced lectures and may include optional introductory visual experiences. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s).

**Pre- or co-requisite:** English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 110 (3 credit hours)****Drawing I**

Introduction to basic drawing skills and concepts. Projects in line, value, space and composition are among the topics that will be explored in a variety of media. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**ART 112 (3 credit hours)****2-Dimensional Design**

Investigates design principles of balance, unity and variety, emphasis, and rhythm, and their application to the elements of art, including line, shape, value and color. Uses a variety of media. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**ART 113 (3 credit hours)****3-Dimensional Design**

Investigates three-dimensional form and spatial design, including line, plane, mass, surface and structure. Includes the study of various materials, tools, and sculptural techniques. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**ART 121 (3 credit hours)****School Art**

Introduction to art and to the teaching of art in the lower (1-3) elementary grades. Lecture: 3 credits. Laboratory: 0 credits.

**Attributes:** University Course

**Components:** LAB: Laboratory, LEC: Lecture

**University Course:** University Course

**ART 201 (3 credit hours)****Ancient Art History**

Examines the art and architecture of the ancient Mediterranean, focusing on one or more of the cultures of Greece, Rome, Egypt, and the Near East. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course (s)) or Consent of Instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 202 (3 credit hours)****Medieval Art History**

Examines the architecture, sculpture, painting, and related arts from the rise of Christianity to the beginnings of the Renaissance. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course (s)) or Consent of Instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 203 (3 credit hours)****Renaissance Art History**

Examines the art in Europe from the 14th to 18th centuries, with emphasis on the major styles, artists, and developments from the early Renaissance through the age of the Baroque. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course (s)) or Consent of Instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 204 (3 credit hours)****Modern Art History**

Examines the visual arts from the 18th through the 20th centuries, with primary emphasis on Europe and the United States. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course (s)) or Consent of Instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 205 (3 credit hours)****African American Art**

Provides an introduction to African American Art. Examines the creation of the painting, sculpture, graphic arts, photography, and performance art from the early settlements of the United States to the present. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Current placement scores for college level- reading established by KCTCS, or completion of RDG 30 or RDG185, and ENC 91.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ART 208 (3 credit hours)****Introduction to Art Education**

Investigates the theoretical, historical, psychological, and sociological foundations of art education in a lecture-lab format. Provides a critical examination of individual and group activities currently offered in the elementary school art program and includes lectures, curriculum design, evaluation of processes and techniques. Exploration and analysis of design, media and concepts, with special attention to classroom application. ART 208 satisfies the state art requirement for general elementary teacher requirement certification (4 hours of field work required). Lecture: 1.0 credit hours; Laboratory: 2.0 credit hours.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**ART 210 (3 credit hours)****Drawing II**

Advanced studio investigation of drawing techniques and concepts. Projects in line, value, composition and space will be investigated through individual development of style and expression, with extensive use of figure models. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 110.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 211 (3 credit hours)****Life Drawing**

Introduces basic life drawing skills and concepts. Explores topics such as projects in line, value, space, and composition in a variety of media with the human form as the subject matter. Includes drawings in class from a nude human model. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 110.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 220 (3 credit hours)****Painting I**

Studio investigation of the technical and formal concerns of painting, including an understanding of color theory, materials, paint application, and image making. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 110 or Consent of Instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 221 (3 credit hours)****Painting II**

Includes advanced studio investigation of the technical and formal concerns of painting. Continues the development of individual style and expression. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 220.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 231 (3 credit hours)****Jewelry/Metals I**

Introduces the aesthetic and technical issues relating to basic metalsmithing techniques such as sawing, filing, piercing, forging, forming, soldering, and finishing. Employs demonstrations and hands-on work to present the concepts of metal manipulation. Emphasizes instructor-led critiques. Provides an introduction to historical and contemporary metal work. Lecture/Lab: 3.0 credit (90 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**ART 232 (3 credit hours)****Jewelry/Metals II**

Continues the development of techniques introduced in Jewelry/Metals I. Emphasizes problem-solving skills and the development of personal creativity. Stresses the aesthetic and technical issues relating to raising, enameling, forging, casting, and more advanced sculptural processes. Includes discussion and critique as integral parts of the coursework.

Lecture/Lab: 3.0 credit hours (90 contact hours).

**Pre-requisite:** ART 231 or Consent of Instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 240 (3 credit hours)****Ceramics I**

Introduces a variety of forming and finishing techniques used in working with clay and glaze. Hand building, wheel throwing, surface alteration and glazing will be investigated, along with a brief overview of ceramic history, aesthetics and studio safety. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Other, Course Also Offered in Modules

**Components:** LEC: Lecture

**ART 241 (3 credit hours)****Ceramics II**

Continues studio investigation of ceramic techniques in hand-building and/or wheel throwing, glazing, surface decoration, glazing and firing. Continued development of individual style and personal expression.

Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 240.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 251 (3 credit hours)****Graphic Communication I**

Provides an introduction to graphic design principles and methods and techniques used to incorporate type and image. Applies the elements and principles of design and basic color theories for design concepts. Lecture/Lab: 3.0 credits (90 contact hours)

**Pre- or co-requisite:** ART 110 & ART 112, OR consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 252 (3 credit hours)****Typography**

Introduces core principles of typography through a series of progressively complex studio assignments supported by readings, lectures, and software tutorials. Lecture/Lab: 3.0 credit hours (90 contact hours).

**Pre-requisite:** ART 251 OR consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 253 (3 credit hours)****Graphic Communication II**

Expands proficiency in all aspects of the design process by continuing the development of graphic design principles, methods, and techniques introduced in Graphic Communication I. Incorporates industry-standard page layout, illustration, and image editing software. Includes discussion and critique as integral parts of the coursework. Lab/Lecture: 3.0 credit hours (90 contact hours).

**Pre-requisite:** ART 251 OR consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 254 (3 credit hours)****Design Process and Presentation**

Continues investigation of design principles, process, vocabulary, methods, and presentation. Transitions from theoretical to applied problems with a focus on portfolio preparation and professionalism in communication. Lecture/Lab: 3.0 credits (90 contact hours)

**Pre-requisite:** ART 251 OR consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 260 (3 credit hours)****Sculpture I**

Studio investigation of the technical and formal concerns of three-dimensional expression. Basic sculptural methods of modeling, casting, carving and assembling will be explored in a variety of media. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 110, ART130.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 261 (3 credit hours)****Sculpture II**

Continues the development of sculptural techniques started in Sculpture I. Exploration of subject matter and personal creativity will be emphasized. Students will develop and utilize problem solving skills. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 260 or consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 270 (3 credit hours)****Printmaking I**

Introduces the possibilities and potential of the printmaking media for generating fine arts ideas and images. Explores traditional and contemporary printmaking processes of monotype and monoprint, relief, lithography, intaglio, and stencil. Covers black and white and multiple color printing methods. Introduces printmaking vocabulary and aesthetics. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** (ART 110 and ART 120) or consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 271 (3 credit hours)****Printmaking II**

Explores concepts and techniques in intaglio, lithography, screen-print and/or relief printing with an introduction to contemporary computer/digital aided printmaking processes. Stresses individual expression by creating original imagery while continuing to learn about printmaking as a process. Emphasizes two-dimensional design and color theory concepts and drawing skills. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 270 or permission of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 280 (3 credit hours)****Beginning Film Photography**

Introduces black and white film photographic processes including the use of a camera and the darkroom. Stresses technical and compositional aspects of photography as an art medium. Lecture/Lab: 3 credits (90 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**ART 281 (3 credit hours)****Digital Photography I**

Introduction to the skills, techniques and applications needed to create and manipulate digital photographs and to develop an understanding of photography as a fine art medium. Instruction will include the use of the digital camera and its controls to compose and capture photographs, scanning, printing and using Adobe Photoshop as a "digital darkroom". Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**ART 282 (3 credit hours)****Digital Photography II**

Emphasizes the creation of fine art photographs that reflect the intent and vision of the photographer. Stresses the technical and aesthetic issues relating to image capture, manipulation, printing and presentation. Explores visual and conceptual skills, professional workflow and photographic history. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** ART 281 or permission of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ART 290 (3 credit hours)****Survival Skills for Artists**

Introduces skills needed to attain a higher level of education and/or a career in the visual arts. Explores the wording and formatting of credentials and statements. Covers the critical language of art, digital and printed portfolios, exhibiting artwork, marketing, career opportunities, the hazards of art materials and setting up an art studio. Lecture: 2.0 credits (30 contact hours), Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** 9 credits of ART 100 / 200 level classes or permission of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**ART 299 (1-3 credit hours)****Directed Studies in Art: (Topic)**

Provides an opportunity to cover topics outside the normal range of studio classes or further investigation of topics and techniques covered in studio classes. Laboratory: 1-3 credits (30-90 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

## Astronomy (AST)

**AST 101 (3 credit hours)****Frontiers of Astronomy**

Covers the life histories of stars, the nature of black holes and quasars, the origin of the universe, planets of the solar system, and the possibilities for extraterrestrial life. Includes observation-based activities. A one-semester introductory course for non-science majors. Credit is not given to students who have received credit for AST 191 or AST 192. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** College Readiness in Writing and Reading.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**AST 155 (3 credit hours)****Astrobiology**

Examines topics related to the origins of planets, the requirements for life, the search for life away from Earth, the societal implications of discovering other forms of life, and the future of life on Earth and in space from a multidisciplinary perspective. Credit not available for both BIO 155 and AST 155. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MT65 and ENC91 or equivalent as determined by KCTCS placement examination.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**AST 191 (3 credit hours)****The Solar System**

Emphasizes the nature, origin, and evolution of planets, satellites, and other objects in the Solar System. Includes historical astronomy, the naked eye phenomena of the sky, and modern solar system discoveries made by spacecraft. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** College Readiness in Math, Writing, and Reading.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**AST 192 (3 credit hours)****Stars, Galaxies and the Universe**

Emphasizes the Sun and the universe outside the Solar System. Has a principal theme of the origin and evolution of stars, galaxies and the universe at large. Includes topics of black holes, quasars, and the big bang model of the universe. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** College Readiness in Math, Writing, and Reading.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**AST 195 (1 credit hours)****Introductory Astronomy Laboratory**

Involves performance of exercises in both planetary and stellar astronomy, including Kepler's Laws of Planetary Motion and Newton's Laws of Motion. Examines the functions and limitations of different types of telescopes and mounts. Includes observation of the sun, moon, planets, binaries, galaxies, and nebulae. Lab: 1.0 (15 Contact Hours).

**Pre-requisite:** College readiness in math, writing, and reading.

**Pre- or co-requisite:** AST101 or AST191 or AST192.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

## Auto Body/Collision Repair Tec (CRT)

**CRT 100 (2 credit hours)****Introduction to Collision Repair**

Introduces the student to safety, sanding, grinding, pulling, roughing and filling: the use of tools and equipment; and preparing and priming automotive panels through lectures and demonstration. Lecture: 2.0 (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**CRT 130 (6 credit hours)****Non-Structural Analysis and Damage Repair**

Provides instruction in the replacement and alignment of bolts on automotive parts such as doors, hood, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting and drilling through demonstrations and lectures. Includes instruction on how to repair plastic, fiberglass, SMC and flexible automobile parts. Lecture: 6.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRT 131 (6 credit hours)****Non-Structural Analysis and Damage Repair Lab**

Provides practical experience in the replacement and alignment of bolts on automotive parts such as doors, hood, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting and drilling. Includes instruction on how to repair plastic, fiberglass, SMC and flexible automobile parts. Requires skills that are most effectively taught and practiced on live work; the exact content will be influenced by the live work available. Pre-requisite Or Lab: 6.0 credits (180 - 270 contact hours).

**Co-requisite:** CRT 130.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CRT 150 (6 credit hours)****Painting and Refinishing**

Provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat refinishing products, masking procedures, preparations and paint problems. Lecture: 6.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRT 151 (6 credit hours)****Painting and Refinishing Lab**

Provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat refinishing products, masking procedures, preparations and paint problems. (The auto and/or autos being used for live work will determine exact content.) Pre-requisite Or Lab: 6.0 credits (180 -270 contact hours).

**Co-requisite:** CRT 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CRT 198 (1-8 credit hours)****Practicum**

Provides supervised on-the-job work experience related to the students' education objectives. (Students participating in the practicum do not receive compensation. May be taken for 1-8 credits.) Practicum: 1.0 - 8.0 credit hours.

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**CRT 199 (1-8 credit hours)****Cooperative Education**

Provides supervised on-the-job work experience related to the students' educational objectives. (Students participating in the Co-op Education program receive compensation for their work. May be taken for 1 - 8 credits.) Co-Op: 1.0 - 8.0 credit hours.

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**CRT 230 (6 credit hours)****Structural Analysis and Damage Repair**

Presents instruction on the analysis, repair and replacement of structural panels on unibody automobiles and body and frame alignment on unibody and frame cars. Lecture: 6.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRT 231 (6 credit hours)****Structural Analysis and Damage Repair Lab**

Presents instruction on the analysis, repair and replacement of structural panels on unibody automobiles and body and frame alignment on unibody and frame cars. Pre-requisite Or Lab: 6.0 credits (180 - 270 contact hours).

**Co-requisite:** CRT 230.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CRT 250 (6 credit hours)****Mechanical and Electrical Components**

Provides instruction in the diagnosis, repair, and/or replacement of suspension, steering, electrical, brake, drive train, fuel, exhaust, and restraint systems. Includes theories and concepts of heating and air conditioning systems. Lecture: 6.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRT 251 (6 credit hours)****Mechanical and Electrical Components Lab**

Provides practical experience in the diagnosis, repair, and/or replacement of suspension, steering, electrical, brake, drive train, fuel, exhaust, and restraint systems. Includes demonstration of theories and concepts of heating and air conditioning systems. Involves live work on automobiles. Pre-requisite Or Lab: 6.0 credits (180 - 270 contact hours).

**Co-requisite:** CRT 250.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CRT 291 (1 credit hours)****Special Projects I**

Designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area. Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CRT 293 (2 credit hours)****Special Projects II**

Designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area. Lab: 2.0 credits (90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CRT 295 (3 credit hours)****Special Projects III**

Designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area. Lab: 3.0 credits (135 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory



**CRT 298 (2 credit hours)****Advanced Practicum**

Provides supervised on-the-job work experience related to the students' education objectives. (Students participating in the practicum do not receive compensation.) Independent Study: 2.0 credits (150 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** IND: Independent Study

**CRT 299 (2 credit hours)****Advanced Cooperative Education**

Provides supervised on-the-job work experience related to the students' educational objectives. (Students participating in the Co-op Education program receive compensation for their work.) Co-Op: 2.0 credits (150 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Automotive Technology (ADX)

**ADX 120 (3 credit hours)****Basic Automotive Electricity**

Introduces the student to the principles, theories, and concepts of the automotive electrical system that include the unique diagramming, coding and locating of wiring, and component devices. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** ADX 121.

**Attributes:** Technical

**Components:** LEC: Lecture

**ADX 121 (2 credit hours)****Basic Automotive Electricity Lab**

Provides hands-on work designed to allow the student to use the concepts, principles, and theories covered in Basic Automotive Electricity, ADX 120, in practical application. Provides the student a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Co-requisite:** ADX 120.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ADX 150 (3 credit hours)****Engine Repair**

Provides a series of lectures and demonstrations on the fundamentals of engine repair, troubleshooting, and engine operation and maintenance. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ADX 151 (2 credit hours)****Engine Repair Lab**

Provides practical experiences and applications relating to engine repair, inspection, trouble shooting and maintenance. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** ADX 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ADX 170 (3 credit hours)****Climate Control**

Introduces the theory and operation of heating and air conditioning systems, air conditioning terminology, and servicing and troubleshooting mechanical and electrical circuits of heating and air conditioning systems. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** ADX 171.

**Attributes:** Technical

**Components:** LEC: Lecture

**ADX 171 (1 credit hours)****Climate Control Lab**

Provides opportunities to trouble shoot, repair and perform maintenance on heating and air conditioning systems. Provides experiences in safety precautions, special tool uses, component operation and how to service and trouble shoot the complete system. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 1.0 credit (45 contact hours).

**Co-requisite:** ADX 170.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ADX 260 (3 credit hours)****Electrical Systems**

Focuses on the theory and principles relating to automotive electrical/electronic components. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** ADX 261.

**Attributes:** Technical

**Components:** LEC: Lecture

**ADX 261 (2 credit hours)****Electrical Systems Lab**

Provides practical applications and experiences related to the theory and principles of automotive electrical/electronic components. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Co-requisite:** ADX 260.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Automotive Technology (AUT)

**AUT 110 (3 credit hours)****Brake Systems**

Involves the operational theory and application of hydraulic and anti-lock brake systems; discusses disc and drum brakes. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 111 (2 credit hours)****Brake Systems Lab**

Develop skills in the diagnosis and repair of hydraulic and anti-lock brake systems, covering both disc and drum type braking systems. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 110.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 130 (3 credit hours)****Manual Drive Train and Axles**

Involves an in-depth study of principles of operation, construction, and service of manual transmissions and related drive train components (differentials, clutches, u-joints, rear wheel drive and 4-wheel drive).

Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 131 (2 credit hours)****Manual Drive Train and Axles Lab**

Develop skills in the diagnosis and repair of manual transmissions and related drive train components (differentials, clutches, u-joints, rear wheel drive, and 4-wheel drive). The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 130.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 140 (3 credit hours)****Basic Fuel and Ignition Systems**

Includes the theory, component identification, application, operation, service and repair of the basic automotive ignition, fuel, and emission systems, including related components. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 141 (2 credit hours)****Basic Fuel and Ignition Systems Lab**

Provides skills necessary to diagnose and repair the automotive basic ignition, fuel, and emission systems and related components are developed. The student may be provided a unique work experience alternating between periods of work on-site and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 140.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 142 (3 credit hours)****Emission Systems**

Presents the theory, component identification, application, operation, service and repair of advanced automotive ignition, fuel, and emission systems, including related components. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 143 (2 credit hours)****Emission Systems Lab**

Introduces skills necessary to diagnose, service and repair automotive advanced ignition, fuel, and emission systems, including related components are developed. The student may be provided a work-study experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 142.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 160 (3 credit hours)****Suspension and Steering**

Presents the automotive suspension system, the diagnosing of suspension problems, identifying components, recognizing tire wear problems, wheel balancing and the use of alignment. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 161 (2 credit hours)****Suspension and Steering Lab**

Introduces skills necessary in the diagnosis and repair of automotive suspension systems, wheel alignment, and wheel balancing. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 160.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 180 (3 credit hours)****Automatic Transmission/Transaxle**

Involves the study of the operating principles of rear and front wheel drive automatic transmissions and transaxles and the testing and diagnostic process. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 181 (2 credit hours)****Automatic Transmission/Transaxle Lab**

Develop diagnostic and repair skills related to the operation of rear and front wheel automatic transmissions and transaxles. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 180.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 198 (1 credit hours)****Practicum**

The Practicum provides supervised on-the-job work experience related to the student's educational objectives. Students who participate in the practicum do not receive compensation. Practicum: 1 credit (75 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**AUT 199 (1 credit hours)****Cooperative Education Program**

Co-op provides supervised on-the-job work experience related to the student's educational objectives. Students who participate in the Cooperative Education program receive compensation for their work. Co-op: 1 credit (75 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**AUT 240 (3 credit hours)****Computer Control Systems and Diagnosis**

Presents the comprehensive diagnostics of on-board computer control systems, including distributorless ignition systems. Presents the problem solving process including flowchart reading. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 241 (2 credit hours)****Computer Control Systems and Diagnosis Lab**

Introduces the skills necessary to diagnose and repair drivability problems associated with on-board computer control systems. The student may be provided a work experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre- or co-requisite:** AUT 240.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 275 (3 credit hours)****Hybrid and Electric Vehicle Technology**

Focuses on the theories, principles, and diagnosis relating to hybrid automobiles. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ADX 120 and ADX 121 and ADX 260 and ADX 261.

**Co-requisite:** AUT 276.

**Attributes:** Technical

**Components:** LEC: Lecture

**AUT 276 (2 credit hours)****Hybrid and Electric Vehicle Technology Lab**

Focuses on the theories, principles, and diagnosis relating to hybrid automobiles. The student may be provided a work-study experience alternating between periods of work off campus and work in a classroom laboratory setting. Lab: 2.0 credits (90 contact hours).

**Pre-requisite:** ADX 120 and ADX 121 and ADX 260 and ADX 261.

**Co-requisite:** AUT 275.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 290 (1 credit hours)****Special Problems I**

A course designed for the student who has demonstrated specific needs for additional training. The student may be provided a work/study experience alternating between periods of work off campus and work in a classroom laboratory setting. Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 291 (2 credit hours)****Special Problems II**

A course designed for the student who has demonstrated specific needs for additional training. The student may be provided a work/study experience alternating between periods of work off campus and work in a classroom laboratory setting. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 292 (3 credit hours)****Special Problems III**

A course designed for the student who has demonstrated specific needs for additional training. The student may be provided a work/study experience alternating between periods of work off campus and work in a classroom laboratory setting. Laboratory: 3 credits (135 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**AUT 298 (1 credit hours)****Practicum**

The practicum provides supervised on-the-job work experience related to the students educational objectives. Students who participate in the practicum do not receive compensation. Practicum: 1 credit hour (75 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**AUT 299 (1 credit hours)****Cooperative Education Program**

Co-op provides supervised on-the-job work experience related to the students educational objectives. Students who participate in the Cooperative Education program receive compensation for their work. Co-op: 1 credit hour (75 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Aviation/Airway Management (ATE)

**ATE 100 (1 credit hours)****Aviation Math**

Covers mathematics related to the aerodynamic and physical forces acting on an aircraft in flight. Lecture/Lab: 1.0 credit (40.5 contact hours).

**Pre-requisite:** Computer Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 102 (3 credit hours)****Introduction to Aircraft Maintenance I**

Teaches knowledge and skills necessary in measuring, calculating, and documenting aircraft weight and balance. Provides instruction in the identification, cause, prevention, removal and treatment of corrosion. Includes interior and exterior cleaning of the aircraft. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** Computer Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 104 (3 credit hours)****Introduction to Aircraft Maintenance II**

Provides instruction on the aerodynamic and physical forces acting on an aircraft in flight, basic electricity theory, concepts, components, physics, meter operation and use, battery construction and servicing, and basic principles of physics as related to aviation maintenance. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** Computer Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 106 (3 credit hours)****Introduction to Aircraft Maintenance III**

Provides instruction in reading and interpretation of basic industrial and aircraft blue prints, basic handling and ground service techniques of the aircraft, the use of maintenance publications, aircraft mechanic privileges and limitations, and the use and completion of required forms and records. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** Computer Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 108 (3 credit hours)****Introduction to Aircraft Maintenance IV**

Provides an understanding of basic hydraulic functions, the fabrication of tubing and flex hoses as well as seal comparability. Includes instruction in structural inspection, materials and fasteners, and repair methods. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** Computer Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 202 (3 credit hours)****Aircraft Structures I**

Covers the principles of sheet metal layout, bending, and rivet installation. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 204 (3 credit hours)****Aircraft Structures II**

Provides instruction in the inspection, service and repair of welded aircraft assemblies and structures, metal and composite aircraft structures, including laminated and honeycomb structures, plastic materials, interior furnishings and access openings. Lecture/Lab: 3.0 credits (96 contact hours)

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 206 (3 credit hours)****Aircraft Structures III**

Includes inspection of airframes to determine airworthiness. Covers the methods and techniques used in the assembly of subunits and major components of the airframe; and the rigging of primary, secondary and auxiliary control surfaces. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 208 (3 credit hours)****Aircraft Structures IV**

Provides instruction in the repair of wood structures, the inspection, testing, repair, selection, and installation of aircraft fabric covering; and the identification, application and inspection of aircraft finishing materials. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 222 (3 credit hours)****Aircraft Systems I**

Covers the repair of hydraulic and pneumatic power systems components. Includes the inspection, check, service, and repair of landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering system. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 224 (3 credit hours)****Aircraft Systems II**

Covers checking, inspecting, troubleshooting and repair of aircraft electrical system and system components. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 226 (3 credit hours)****Aircraft Systems III**

Covers checking, inspection, servicing, repair and troubleshooting of fuel systems and components, heating, cooling, air conditioning, pressurization, and oxygen systems; and rain and ice control and removal systems. Includes types of fuels used in various aircraft and a discussion of the problems associated with fueling and various techniques in fueling. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 228 (3 credit hours)****Aircraft Systems IV**

Includes discussion, inspection, and troubleshooting of navigational and communication systems, fire detection and extinguishing systems. Covers the inspection, troubleshooting, and repair of heading, speed, altitude, time, attitude, temperature, pressure and position indicating systems and installation of instruments. Provides for the inspection, checking and servicing of speed and take-off warning systems, electrical brake controls, antiskid systems, and autopilot systems; and the pitot-static system, floating compass system and the gyros used for flight instruments. Includes the role of mechanics when working with precision instruments. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 242 (3 credit hours)****Aircraft Powerplants I**

Covers theory and development of the aircraft internal combustion engine as well as instruction in the use of engine construction and repair. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



**ATE 244 (3 credit hours)****Aircraft Powerplants II**

Covers inspection, checking, servicing and the repair of opposed and radial engines and reciprocating engine installation. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 246 (3 credit hours)****Aircraft Powerplants III**

Includes construction, repair and overhaul of turbine engines. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 248 (3 credit hours)****Aircraft Powerplants IV**

Includes construction, repair and overhaul of turbine engines. Covers the operation and inspection of turbine engines. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 252 (3 credit hours)****Aircraft Powerplant Systems I**

Includes the purpose, use, and selection of lubricants; repair of engine lubrication system components; and the inspection, checking, servicing, troubleshooting and repairing of engine lubrication systems, propeller synchronizing and ice control systems, fixed-pitch, constant-speed, and feathering propellers, and propeller governing systems. Provides for the identification and selection of propeller lubricants, balance propellers, and repair of propeller control system components. Covers the installation, troubleshooting and the removal of propellers. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 254 (3 credit hours)****Aircraft Powerplant Systems II**

Covers troubleshooting, servicing and repair of fluid rate of flow indicating systems and repair of engine temperature, pressure, and rpm indicating systems. Includes the operation and overhaul of magneto and ignition harness; repair of engine ignition system components; and the inspection, check, service, troubleshooting, and repair of reciprocating and turbine engine ignition systems. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 256 (3 credit hours)****Aircraft Powerplant Systems III**

Includes the inspection, checking, troubleshooting, servicing and repair of engine ice and rain control systems, heat exchangers, superchargers, carburetor air intake and induction manifolds. Covers the repair of engine electrical system components, and the installing, checking, and servicing of engine electrical wiring, controls, switches, indicators, and protective devices. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 258 (3 credit hours)****Aircraft Powerplant Systems IV**

Covers the operation, inspection and repair of fuel systems and components of aircraft fuel systems and fuel metering systems. Includes the inspection and repair of engine cooling system components, engine exhaust system components, and engine fire detection and extinguishing systems. Lecture/Lab: 3.0 credits (96 contact hours).

**Pre-requisite:** ((ATE 100 and ATE 102 and ATE 104 and ATE 106 and ATE 108) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 292 (3 credit hours)****Introduction To Aviation Electronics**

Provides instruction in basic to intermediate electronics and specifically how they relate to aviation maintenance technology. Lecture: 3.0 credit hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 293 (3 credit hours)****GROL+Radar Exam Prep**

Provides instruction and preparation for the FCC General Radio Operators License and Radar endorsement exams. Lecture: 3.0 credit hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ATE 299 (1-6 credit hours)****Selected Topics in Aviation Maintenance Technology: (Topic)**

Various aviation maintenance topics, issues and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructors; course may be repeated with different topics to a maximum of six credit hours. Lecture: varies. Laboratory: varies.

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Basic Electricity (BEX)

**BEX 100 (3 credit hours)****Basic Electricity for Non-Majors**

This course introduces non-majors to the basic physics of electricity. Students apply Ohm's law; measure resistance, voltage, ohms, watts and amps; construct various types of electrical circuits; select wire and fuse sizes; and learn to troubleshoot an electric motor and coil. Lecture: 3 credits (45 contact hours).

**Co-requisite:** BEX 101.

**Attributes:** Technical

**Components:** LEC: Lecture



**BEX 101 (2 credit hours)****Basic Electricity Lab for Non-Majors**

This is a hands-on class designed to allow the student to use the concepts, principles, and theories covered in Basic application. Electricity for non-majors BEX 100. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** BEX 100.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Biological Sciences (BIO)

**BIO 112 (3 credit hours)****Introduction to Biology**

Basic study of structure, function and interactions of living organisms including cell theory, genetics, energetics, evolution and ecology. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 113 (1 credit hours)****Introduction to Biology Lab**

Emphasizes basic laboratory studies of structure, function and interactions of living organisms including cell theory, genetics, energetics, evolution, and ecology. Pre-requisite/). Laboratory: 1 credit (30 contact hours).

**Co-requisite:** BIO 112 (If a student taking the courses concurrently fails or withdraws from BIO 112, they may continue to complete and earn credit for BIO 113 with instructor's consent.

**Attributes:** SL - Science Laboratory, Course Also Offered in Modules

**Components:** LAB: Laboratory

**BIO 114 (3 credit hours)****Biology I**

Examines basic biological concepts such as cell structure and function, metabolism, the chemical basis of biology, protein synthesis, genetics, and evolution with emphasis placed on the cellular level. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** BIO 115.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 115 (1 credit hours)****Biology Laboratory I**

A two-hour laboratory to be offered concurrently with BIO 114. Designed to acquaint the student with the use of analytical techniques in biology, theory, and methods involved in experimentation, in order to facilitate a greater understanding of concepts presented in lecture and the way in which information is gathered in science. Laboratory: 1 credit (30 contact hours).

**Co-requisite:** BIO 114

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 116 (3 credit hours)****Biology II**

Examines basic biological concepts such as ecology, biological diversity (to include the kingdoms of life), reproduction, growth, and development, with emphasis placed on multicellular systems. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** BIO 117.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 117 (1 credit hours)****Biology Laboratory II**

A two-hour laboratory to be offered concurrently with BIO 116. Designed to acquaint the student with the use of analytical techniques in biology, theory, and methods involved in experimentation in order to facilitate a greater understanding of concepts presented in lecture and the way in which information is gathered in science. Laboratory: 1 credit (30 contact hours).

**Co-requisite:** BIO 116.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 118 (3 credit hours)****Microbes and Society**

An introduction to the science of microbiology addressing the role of microorganisms in nature and in human welfare. Contemporary topics will include infectious diseases, genetic engineering, the environment and biological warfare. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 120 (3 credit hours)****Human Ecology**

Interrelationships among humans, other organisms and the environment including principles of energy and matter, resource use, biogeochemical cycling, trophic structures, sustainability and environmental impacts by humans. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 121 (1 credit hours)****Human Ecology Laboratory**

Basic laboratory studies of interactions among living organisms and their environment including biogeochemical cycling, trophic structures, sustainability and human impacts on the environment. Pre-requisite/ Laboratory: 1 credit (30 contact hours).

**Co-requisite:** BIO 120 or BIO 124.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 122 (3 credit hours)****Introduction to Conservation Biology**

Historical and current perspectives on species extinction and global loss of biological diversity is presented. Methods used to conserve plant and animal life in the United States and around the world are surveyed, and conservation activities and needs are discussed in societal, cultural, economic, and political contexts. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** High school biology recommended.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 124 (3 credit hours)****Principles of Ecology**

Study of the principles and interrelationships between organisms and their environment with emphasis on the analytical and statistical methods of ecology. Pre- Requisite: College Readiness in Math, Writing and Reading. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 130 (3 credit hours)****Aspects of Human Biology**

Aspects of human biology will be introduced from the molecular level to the integrated whole. Attention will be given to the biological bases of various health and wellness issues. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 135 (4 credit hours)****Basic Anatomy and Physiology with Laboratory**

Presents the fundamental structure of the human body and the physiological mechanisms involved in normal functioning are presented through lecture and student participation in laboratory activities. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Minimum ACT Composite score 16 (or KCTCS determined equivalency); OR completion with "C" or better of any college biology or chemistry course; OR ACT of 13-15 with co-requisite OR supplemental instruction; OR consent of instructor.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 135S (1-2 credit hours)****Supplemental Instruction for Human Anatomy and Physiology with Laboratory**

Provides supplementary instruction for students who do not meet college readiness standards for BIO 135. Covers content necessary for success in BIO 135 as needed. Lecture: 1.0-2.0 credits (15-30 contact hours).

**Co-requisite:** BIO 135.

**Attributes:** Other, Supplemental Science

**Components:** LEC: Lecture

**BIO 137 (4 credit hours)****Human Anatomy and Physiology I with Laboratory**

The interrelationship of structure and function of each body system will be presented in two semesters. The first semester will include basic chemistry, cell structure, cell physiology, metabolism, tissues, and integumentary, skeletal, muscular, and nervous systems. Lecture: 3.0 credits (45 contact hours); Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** College readiness in math, reading, and English; OR successful completion (C or better) of a college biology or chemistry course; OR consent of instructor for enrollment in co-requisite supplemental instruction; OR consent of instructor.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 137S (1-2 credit hours)****Supplemental Instruction for Human Anatomy and Physiology I**

Provides supplementary instruction for students who do not meet college readiness standards for BIO 137. Covers content necessary for success in BIO 137 as needed. Lecture: 1.0-2.0 credit hours (15-30 contact hours)

**Pre-requisite:** Consent of BIO 137 Instructor.

**Co-requisite:** BIO 137.

**Attributes:** Other, Supplemental Science

**Components:** LEC: Lecture

**BIO 139 (4 credit hours)****Human Anatomy and Physiology II with Laboratory**

The second semester continues the study of the interrelationships of organ systems, including the endocrine, reproductive, cardiovascular, lymphatic, digestive, respiratory, and urinary systems. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** BIO 137.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 140 (3 credit hours)****Botany**

The anatomy, physiology, and biodiversity of plants emphasizing life processes, the cell, development, heredity, plant systems, evolution, taxonomy, phylogeny and ecology. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BIO 112 or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 141 (4 credit hours)****Botany with Laboratory**

The anatomy, physiology, and biodiversity of plants emphasizing life processes, the cell, development, heredity, plant systems, evolution, taxonomy, phylogeny and ecology. Includes laboratory studies of the morphology, physiology, and reproduction of plants with emphasis on flowering plants. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** BIO 112 or consent of instructor.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 142 (3 credit hours)****Zoology**

The anatomy, physiology, and biodiversity of animals emphasizing life processes, the cell, development, heredity, body systems, evolution, taxonomy, phylogeny and ecology. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BIO 112 or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 143 (4 credit hours)****Zoology with Laboratory**

The anatomy, physiology, and biodiversity of animals emphasizing life processes, the cell, development, heredity, body systems, evolution, taxonomy, phylogeny and ecology. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** BIO 112 or consent of instructor.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 144 (3 credit hours)****Insect Biology**

Presents an overview of the biology of both beneficial and detrimental insects including physiology, behavior, ecology, and evolution. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 145 (1 credit hours)****Insect Biology Laboratory**

Investigate insect structure and function utilizing basic biological laboratory methodologies including study in taxonomy, phylogeny, behavior and ecology. Lab: 1 credit hour (30 contact hours).

**Pre- or co-requisite:** BIO 144 - Insect Biology.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 148U (3 credit hours)****Introductory Biology I**

BIO 148 introduces the student to the biological mechanisms operating at the molecular cellular and population level that contribute to the origin maintenance and evolution of biodiversity including the origins and history of the evolutionary process. Course material is presented within a phylogenetic context emphasizing the shared history of all living organisms on earth through common ancestry. The first semester of an integrated one-year sequence (BIO 148 and BIO 152). (KCTCS equivalents: MA 109=MAT 150; CHE 105=CHE 170). Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** Math ACT of 23 or above or MA 109, past or current enrollment in CHE 105.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**BIO 150 (3 credit hours)****Principles of Biology I**

Presents knowledge of biological principles at the cellular and molecular levels, similarities and differences in structure and function of simple and complex cells and theories on the origin and evolution of biological systems. Part one of a two semester sequence (BIO 150 and BIO 152). Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CHE 170 or concurrent enrollment) or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 151 (2 credit hours)****Principles of Biology Laboratory I**

Includes studies of cellular and molecular biology. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** BIO 150 or Concurrent enrollment.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 152 (3 credit hours)****Principles of Biology II**

Presents knowledge of organismal, population and community biology. Part two of a two semester sequence (BIO 150 and BIO 152). Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BIO 150 or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 153 (2 credit hours)****Principles of Biology Laboratory II**

Includes organismal, population and community biology. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** BIO 152 or concurrent.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 155 (3 credit hours)****Astrobiology**

Examines topics related to the origins of planets, the requirements for life, the search for life away from Earth, the societal implications of discovering other forms of life, and the future of life on Earth and in space from a multidisciplinary perspective. Credit not available for both BIO 155 and AST 155. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MT65 and ENC91 or equivalent as determined by KCTCS placement examination.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 155U (1 credit hours)****Introductory Biology Laboratory**

This course is designed to provide a broad introduction into the data, results, and information associated with biological research, and into some of the analytical approaches used to test biological hypotheses. Communication of these aspects of biological research is crucial, and much of this lab course will be focused on the development of effective writing skills for the delivery of this information. Laboratory: 1 credit hour (2 contact hours).

**Pre-requisite:** Math ACT of 23 or above or MA 109, past or current enrollment in CHE 105 (KCTCS equivalents: MA 109=MAT 150; CHE 105=CHE 170).

**Attributes:** University Course (University of Kentucky)

**Components:** LAB: Laboratory

**University Course:** University of Kentucky

**BIO 209 (2 credit hours)****Introductory Microbiology Laboratory**

Laboratory exercises in general microbiology. Laboratory: 4 hours. BIO 208/226 should be taken concurrently.

**Pre-requisite:** One unit of chemistry or consent of instructor.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**BIO 220 (3 credit hours)****The Genetic Perspective**

Covers introductory genetics for non-science majors examining how heredity affects humans and the remainder of the living world and providing some insights into other fields of science from the geneticists' perspective. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BIO 112 or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 225 (4 credit hours)****Medical Microbiology with Laboratory**

The characteristics of microorganisms and their relation to health and disease are studied. Lecture: 2 credits (30 contact hours); Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** BIO 137 and BIO 139 or equivalent.

**Attributes:** SL - Science Laboratory, SN - Science, Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 226 (3 credit hours)****Principles of Microbiology**

Introduction to fundamental microbiological principles and techniques emphasizing structural functional, ecological, and evolutionary relationships among microorganisms. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BIO 112 or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**BIO 227 (5 credit hours)****Principles of Microbiology with Laboratory**

Introduces fundamental microbiological principles and techniques emphasizing structural, functional, ecological, and evolutionary relationships among microorganisms. Includes laboratory exercises in general microbiology. Lecture: 3 credits (45 contact hours); Laboratory: 2 credit (60 contact hours).

**Pre-requisite:** BIO 114 or BIO 150 or consent of instructor.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 295 (1-3 credit hours)****Independent Investigation In Biology**

Investigates specific topics or problems in the field of the biological sciences. May be repeated for a maximum of six credits. Laboratory varies with credit. Laboratory: Varies with credit.

**Pre-requisite:** Permission of Instructor.

**Attributes:** Other

**Components:** IND: Independent Study, LEC: Lecture

**BIO 299 (1-3 credit hours)****Selected Topics In Biology: (Topic)**

Addresses recent trends and discoveries in selected areas of biology in a seminar format. Emphasizes discussion and critical thinking. May be repeated with different subtitle for a maximum of six credits. Lecture: Varies with credit.

**Pre-requisite:** Permission of Instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**BIO 1351 (1 credit hours)****Cells, Skin & Bones**

Presents the fundamental structure of the human body including Cell and Cellular Physiology, the Integumentary System, and the Skeletal System. Covers the physiological mechanisms involved in normal functioning presented through lecture and student participation in laboratory activities. Laboratory: 0.75 credits (11.25 contact hours). Clinical: 0.25 credits (7.5 contact hours).

**Pre-requisite:** Reading and English assessment exam scores above the KCTCS developmental level and a mathematics placement score above the score range for MAT 65 or successful completion of the prescribed developmental course(s) or consent of the instructor.

**Components:** CLN: Clinical, LAB: Laboratory

**BIO 1352 (1 credit hours)****Muscle, Regulators & Generation**

Presents the fundamental structure of the human body including the Muscular System, Nervous system, Endocrine System, and Reproductive System. Covers the physiological mechanisms involved in normal functioning presented through lecture and student participation in laboratory activities. Lecture: 0.75 credits (11.25 contact hours). Laboratory: 0.25 credits (7.5 contact hours).

**Pre-requisite:** BIO 1351 or Consent of Instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**BIO 1353 (1 credit hours)****Lymph, Blood & Gases Lymph, Blood & Gases**

Presents the fundamental structure of the human body including the Lymphatic System, Cardiovascular System, and Respiratory System. Covers the physiological mechanisms involved in normal functioning presented through lecture and student participation in laboratory activities. Lecture: 1 credit (18.75 contact hours).

**Pre-requisite:** BIO 1352 or Consent of Instructor.

**Components:** LAB: Laboratory, LEC: Lecture

## Biomedical Technology Systems (BTS)

**BTS 100 (1 credit hours)****Biomedical Technology Systems: A Career Perspective**

Offers insight into the profession for which services are provided to Biomedical Technology Systems with regards to career opportunities, job expectations, and professional growth. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** RDG 30 or equivalent based on KCTCS placement exam.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 110 (1 credit hours)****Environmental Risks and Precautionary Measures for the BTS Service Professional**

Presents potential risks for which those involved with Biomedical Technology Systems will encounter and precautionary measures taken to assure that no harm is done. Focuses on safety awareness and management throughout the entire healthcare setting including identifying risks associated with the use and maintenance of medical technologies. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** RDG 30 or equivalent based on KCTCS placement exam.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 120 (2 credit hours)****Essentials of Biomedical Electronics I**

Presents basic analog and digital semiconductor devices and their applications within medical products. Addresses how to read electronic schematics and apply basic troubleshooting skills to circuits that utilize both discrete components and integrated circuits. Focuses on such devices as diodes, transistors, thyristors, logic gates and flip-flops, and digital timing devices. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** AIT 1101 with a grade of C or better.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 125 (2 credit hours)****Essentials of Biomedical Electronics II**

Continues the presentation of analog and digital semiconductor devices by introducing more complex devices and their applications within medical products than those introduced in BTS 120. Addresses how to read electronic schematics and apply basic troubleshooting skills to circuits that utilize integrated-packaged devices and the systems that comprise them. Focuses on such devices as operational amplifiers, combinational and sequential logic devices, microprocessors, microcontrollers, and programmable logic devices. Emphasis is also given to communication circuits used in medical products. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BTS 120 with a grade of C or better.

**Attributes:** Technical

**Components:** LEC: Lecture



**BTS 130 (2 credit hours)****Medical Equipment Management I**

Presents medical technology management, principles and practices with regard to medical equipment assessment, planning, acquisition, acceptance, and replacement and disposal. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BTS 100, BTS 110 and AIT 1101 (each with a grade of C or better).

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 140 (1 credit hours)****Science Principles Employed in Medical Technologies**

Presents physical and chemical science principles that are incorporated into medical devices and systems for the purpose of providing greater understanding into the design and operation of such technologies. Focuses on medical technologies that utilize principles involving light, sound, fluid dynamics, heat transfer, and electrochemistry. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** PHY 171.

**Pre- or co-requisite:** BTS 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 200 (2 credit hours)****Patient Care Support and Management Systems**

Presents systems employed throughout healthcare in support of patient care and patient management efforts with regard to their application, operation, and routine evaluation. Emphasizes systems that influence patient care in an indirect manner rather than directly providing patient care. Focuses on variety of systems including utility power systems, water and medical gas systems, nurse call systems, patient beds, sterilizers, infant abduction systems, and telemedicine. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BTS 125 with a grade of C or better.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 210 (2 credit hours)****Diagnostic Medical Equipment and Non-Radiographic Imaging Modalities**

Presents medical equipment and instrumentation used to assess biophysical signals and images for diagnostic purposes. Examines such technology in terms of principles of operation and measuring its performance. Focuses on a variety of diagnostic technologies including the electrocardiograph and electroencephalograph machines, the pulmonary function analyzer, video endoscopy systems, ultrasound-generating machines, and magnetic resonance imaging (MRI) systems. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BIO 135, BTS 110, BTS 125, and BTS 140 (each with a grade of C or better).

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 220 (2 credit hours)****Laboratory Devices, Instruments, and Analyzers**

Presents instruments employed in the clinical laboratory setting with regard to purpose, design, maintenance, and management. Focuses on technologies such as centrifuges, microscopes, hematology analyzers, blood gas analyzers, electrolyte analyzers, clinical chemistry analyzers, and tissue processors. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BIO 135 with a grade of C or better BTS 110 with a grade of C or better BTS 125 with a grade of C or better BTS 140 with a grade of C or better.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 230 (2 credit hours)****Medical Equipment Management II**

Presents medical technology management principles and practices with regard to ongoing training of staff, ongoing medical equipment maintenance, ongoing risk management, and ongoing quality assurance necessary to assure that equipment is safe and adequately maintained. Focuses on record keeping and compliance with codes, standards, and regulations. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BTS 130 with a grade of C or better.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 250 (2 credit hours)****Introduction to Medical-Based IT Networks and Standards**

Presents IT networks employed throughout the healthcare setting that are interconnected to patient care equipment and record management systems. Includes communication standards and risk management standards used by such networks. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** CIT 160.

**Pre- or co-requisite:** CIT 180.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 260 (2 credit hours)****Radiographic Imaging Modalities**

Presents radiographic imaging systems routinely employed in health care settings with regard to the technology, theory of operations, and quality assurance testing. Emphasizes a variety of technologies including both analog and digital radiographic and fluoroscopic machines, mammography units, computed axial tomography (CAT) scanners, and bone densitometers. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BIO 135, BTS 110, BTS 125, BTS 140 and BTS 230 (each with a grade of C or better).

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 270 (2 credit hours)****Therapeutic Equipment Modalities I**

Presents therapeutic medical equipment typically utilized within the perioperative and intensive care settings. Focuses on clinical applications, circuit design and circuit operation, operator controls and equipment setup, managing device alarms, addressing maintenance requirements, and meeting performance and safety standards. Emphasizes a variety of medical technologies including IV pumps, electrosurgical units, defibrillators, mechanical ventilators, anesthesia machines, infant incubators, and surgical lasers. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BIO 135, BTS 125, and BTS 140 (each with a grade of C or better).

**Attributes:** Technical

**Components:** LEC: Lecture



**BTS 275 (2 credit hours)****Therapeutic Equipment Modalities II**

Presents therapeutic medical equipment typically utilized outside the perioperative and intensive care settings primarily towards physical therapy and treatment interventions. Focuses on clinical applications, circuit design and circuit operation, operator controls and equipment setup, managing device alarms, addressing maintenance requirements, and meeting performance and safety standards. Emphasizes a variety of medical technologies including therapeutic ultrasound units, electrical stimulation units, dialysis machines, oxygen concentrators, and hyperbaric chambers. Lecture/ Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BTS 270 and BTS 230(each with a grade of C or better).

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 280 (2 credit hours)****General Care Monitoring and Instrumentation**

Presents various physiological parameters measured in low and mid-acuity situations typically encountered in general care settings along with the instrumentation used to obtain such information. Focuses on how the technology works and how to evaluate its performance and safety. Emphasis is given to a variety of medical technologies including scales, thermometers, general electrocardiograph monitors, non-invasive blood pressure monitors, pulse oximeters, and spirometers. Pre-requisite Or Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BIO 135, BTS 125, and BTS 140 (each with a grade of C or better).

**Co-requisite:** BTS 230.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 285 (2 credit hours)****Critical Care Monitoring and Instrumentation**

Continues the presentation of various physiological parameters measured in mid and high acuity situations typically encountered in intensive/critical care settings along with the instrumentation used to obtain such information. Focuses on how the technology works and how to evaluate its performance and safety. Emphasizes a variety of medical technologies including advanced electrocardiograph monitors, invasive pressure monitors, cardiac output monitors, anesthetic gas monitors, and fetal monitors. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Pre-requisite:** BTS 280 and BTS 230 (both with a grade of C or better).

**Pre- or co-requisite:** BTS 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTS 290 (2 credit hours)****Clinical Experience in Biomedical Technology Systems**

Provides an opportunity for the student to apply their knowledge and skill regarding various biomedical technology systems and equipment within a real-world environment. Requires the student to complete 120 contact hours of experiential training under the guidance of an assigned clinical supervisor. Clinical: 2.0 credits (120 contact hours).

**Pre-requisite:** BTS 200, BTS 220, and BTS 230 (each with a grade of C or better).

**Pre- or co-requisite:** BTS 250, BTS 260, BTS 275, and BTS 285.

**Attributes:** Technical

**Components:** CLN: Clinical

## Biotechnology Laboratory Technician (BTN)

**BTN 100 (4 credit hours)****Contextual Science with Laboratory**

Introduces students to laboratory focused concepts and skills necessary for entry-level positions in a biotechnology laboratory. Exposes students to selected laboratory exercises that parallel the concepts introduced in BTN 103 and BTN 104. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Co-requisite:** BTN 103, BTN 104.

**Attributes:** Due to Inactivity

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 101 (1 credit hours)****Introduction to Biotechnology**

Introduces current and future applications of biotechnology. Covers biotechnology career opportunities and bioethics. Lecture: 1.0 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BTN 103 (3 credit hours)****Contextual Laboratory Language**

Introduces students to basic scientific language and concepts of biotechnology. Academic study skills needed for success in bioscience courses will be emphasized. Covered topics parallel the concepts introduced in BTN 100 and BTN 104. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** BTN 100 and BTN 104.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTN 104 (3 credit hours)****Contextual Laboratory Math**

Introduces concepts of basic laboratory calculations emphasizing practical applications in biotechnology laboratories. Covered topics parallel the concepts introduced in BTN 100 and BTN 103. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** BTN 100 and BTN 103.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTN 105 (3 credit hours)****Applied Laboratory Calculations for Biotechnology**

Introduces concepts, techniques, and applications of common basic laboratory calculations that are routinely used in the biotechnology laboratory. Emphasizes application of basic computational concepts required of biotechnicians. Requires students to apply strategies to calculate amounts of chemicals required to make solutions, calibrate instruments, collect data, and interpret data. Introduces some computer applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MAT 65 or equivalent as determined by KCTCS examination.

**Attributes:** Technical

**Components:** LEC: Lecture

**BTN 106 (3 credit hours)****Fundamentals of Scientific Communication**

Introduces methods and strategies necessary for written, oral, and visual communications as they are used in popular science. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**BTN 110 (4 credit hours)****Nucleic Acid Methods**

Covers theory of DNA structure and function. Emphasizes laboratory skills in a variety of DNA manipulations. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** One semester of college biology with lab or college chemistry with lab or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 115 (4 credit hours)****Biomanufacturing**

Surveys basic biomanufacturing principles and procedures designed to assure the quality and safety of a product as the manufacturing team moves the product down the biotechnology production pipeline. Introduces upstream and downstream manufacturing processes through a combination of lecture and laboratory activities. Emphasizes the role of government oversight and regulation during discovery, development, and manufacturing of bioproducts as outlined in the Good Laboratory and Good Manufacturing Practices (GLP and GMP) of the Food and Drug Administration (FDA). Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Completion of BTN 201 and BTN 202 with a grade of C or better, or permission of program coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 120 (4 credit hours)****Biofuels**

Introduces students to combustion fuels made from nonpetroleum sources, and includes topics on feedstocks, processing, utilization, and social impacts. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Completion of BTN 201 and BTN 202 with a grade of C or better, or permission of program coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 125 (2 credit hours)****Bioinformatics I**

Introduces the concepts and tools used in the application of information technology to the field of biology. Includes methods for data collection, storing and accessing biological data, fundamentals of sequence alignment, biological molecule structure prediction, and data mining and analysis. Lab: 2.0 credits (60 contact hours).

**Pre- or co-requisite:** Completion of, or concurrent enrollment in BTN 201 and BTN 202.

**Attributes:** Technical

**Components:** LAB: Laboratory

**BTN 126 (2 credit hours)****Bioinformatics II**

Applies concepts introduced in BTN 125 in the design and implementation of basic programming relating to bioinformatics problems. Emphasizes current trends in bioinformatics programming language, databases, and technology. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Completion of BTN 125 with a grade of C or better or permission of program coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory

**BTN 160 (4 credit hours)****Introduction to Agricultural Biotechnology**

Introduces theory and methods relating to applications of biotechnology in agriculture. Emphasizes emerging laboratory technologies in the area of agricultural biotechnology including food and natural resource management. Explores plant and animal genetic engineering. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** BTN 201 and BTN 202 with a grade of C or better, or permission of the program coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 201 (4 credit hours)****Biotechnology Techniques I**

Introduces theory and techniques for media and solution preparations, use of analytical equipment, and laboratory safety. Includes various nucleic acid techniques, gene expression and purification, and bioinformatics. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** A semester of college biology with lab or college chemistry with lab or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 202 (4 credit hours)****Biotechnology Techniques II**

Covers various protein techniques, extraction and purification, and assays. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** BTN 201.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 210 (4 credit hours)****Cell Culture and Function**

Covers use of cell culture in modern biotechnological applications with emphasis on laboratory skills in a variety of cell culture techniques. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** (BTN 110 with a grade of C or better) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 220 (4 credit hours)****Immunological Methods**

Covers immunological theory and applications with focus on techniques such as isolation, purification, and labeling of antibody molecules. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** (BTN 110 with a grade of C or better) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 225 (4 credit hours)****Protein Bioseparation Methods**

Introduces the strategies to purify proteins as part of a biotechnology process. Introduces specific methods such as activity assays for enzymes, extraction of proteins from bacterial cells, salting out, dialysis, ion exchange chromatography, and polyacrylamide gel electrophoresis. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Completion of BTN 201 and BTN 202 with a grade of C or better, or permission of the program coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**BTN 295 (1-3 credit hours)****Independent Investigation in Biotechnology**

Investigates specific topics or problems in the field of the biotechnology under direction of the faculty. May be repeated for a maximum of six credits. Laboratory varies with credit. Lab: 1.0 - 3.0 credits (30-90 contact hours).

**Pre-requisite:** Permission of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**BTN 298 (1-8 credit hours)****Biotechnology Learning Laboratory**

Provides contextual, real-world experience and an opportunity to reinforce previously learned concepts, skills, and critical thinking ability related to business and technical job functions typical of biotechnology companies. Prepares students to conduct mentored activities on various workforce projects assigned by Biotechnology faculty/ staff or in collaboration with biotechnology companies at the Learning Laboratory. Emphasizes twenty-first century skills and workforce readiness. May be repeated for a maximum of 8 credits. Practicum: 1.0 - 8.0 credits (60-480 contact hours).

**Pre- or co-requisite:** Completion of BTN 201 and BTN 202 with a C or better, or permission of program coordinator.

**Attributes:** Technical

**Components:** PCM: Practicum

**BTN 299 (1-3 credit hours)****Selected Topics in Biotechnology**

Addresses recent trends and discoveries in selected areas of biotechnology in a seminar format. Emphasizes discussion and critical thinking. May be repeated for a maximum of 12 credits if topics and/or learning outcomes vary. Lecture: 1.0 - 3.0 credits (15-45 contact hours).

**Pre-requisite:** Permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Blueprint Reading (BRX)

**BRX 110 (2 credit hours)****Basic Blueprint Reading for Machinist**

Basic applied math, lines, multi-view drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings are presented. Safety will be emphasized as an integral part of the course. Lecture: 2 credit hours (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BRX 112 (4 credit hours)****Blueprint Reading for Machinist**

Provides the student with a beginning and advanced series of lectures, demonstrations, and practice exercise in the study of prints. Safety will be emphasized as an integral part of this course. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BRX 120 (3 credit hours)****Basic Blueprint Reading**

Includes basic applied math, lines, multiview drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Emphasizes safety as an integral part of the course. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BRX 210 (2 credit hours)****Mechanical Blueprint Reading**

Provides the student with an advanced series of lectures, demonstrations, and practice exercises in the study of prints involving math (both decimal and metric), combination of lines, multi-view drawings, assembly drawings, fasteners, machining and construction processes, datum coordinates, numerical control prints, sheet metal prints, welding, casting and forging prints. Safety will be emphasized. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** BRX 110 with a grade of C or greater or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BRX 220 (3 credit hours)****Blueprint Reading for Construction**

Provides a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings, building materials and specifications lists, and construction dimensioning systems and charts/schedules. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BRX 1201 (1 credit hours)****Print Reading Fundamentals**

Presents basic applied math, lettering, lines, multiview drawings, title blocks, material lists and the drawing change system. Lecture: 1 credit (15 contact hours).

**Components:** LEC: Lecture

**BRX 1202 (1 credit hours)****Drawing Views and Setup**

Presents sketching, auxiliary and sectional views. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** (BRX 1201 with a grade of C or better) or consent of instructor.

**Components:** LEC: Lecture

**BRX 2201 (1 credit hours)****Basic Construction Prints**

Provides a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings and construction dimensioning systems and measurements. Lecture: 1.0 credits. (15 contact hours).

**Components:** LEC: Lecture

**BRX 2202 (2 credit hours)****Construction Blueprints**

Provides a series of lectures and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings, building materials and specifications lists, and charts/schedules. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** BRX 2201 or Consent of Instructor.

**Components:** LEC: Lecture

## Broadband Technology (BBT)

**BBT 100 (3 credit hours)****Introduction to HFC/Cable-TV**

Introduces the basics of the HFC (Hybrid Fiber Coaxial) portion of the broadband industry. Focuses on primary areas: cable and wire - the design of the cables physically and electrically and how to splice them; print reading - construction drawings and system maps/circuit diagrams; station installation - installation of customer materials and equipment and teaching the customers how to properly use the equipment; basic troubleshooting - finding and repairing trouble in materials and equipment; processing requirements for various signals used in the HFC system and signal level meters and signal testing. Covers the transmission of voice and data signals and how they are transmitted to the subscriber and back to the central office. Includes troubleshooting and fault locating techniques used to repair and maintain subscriber equipment. Lecture/Lab: 3.0 credits (75 contact hours)

**Pre-requisite:** MAT 65 or Equivalent Placement Level or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BBT 101 (3 credit hours)****HFC Cable TV Operations**

Introduces the student to hybrid fiber optic/coaxial cable systems as well as satellite dishes. Presents basic installation, alignment, testing, and troubleshooting techniques. Covers system performance standards and measurement parameters. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** BBT 100 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BBT 200 (2 credit hours)****Introduction to Cellular Technology**

Introduces the world of wireless communications. Provides information to enhance an understanding of how we use radio frequencies to transmit signals, data, and voice over the airwaves. Provides information regarding how to correctly set up and troubleshoot a variety of equipment used in radio communications. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BBT 201 (2 credit hours)****Advanced Cellular Technology**

Covers the theory of wireless communications. Emphasizes the design, construction, and troubleshooting of a cellular phone system. Includes information as to what equipment goes into a typical base station and the technological process that is followed each time a call is made. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** BBT 200 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BBT 210 (3 credit hours)****Security Systems Applications**

Covers the importance of security in all aspects of business today, from closed-circuit cameras to internet-driven and accessible systems. Covers the security and privacy rules and regulations before concentrating on hands-on experience in selecting, installing, testing, and troubleshooting the appropriate system for the task at hand. Lecture/Lab: 3.0 credits (75 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BBT 220 (2 credit hours)****PBX Installations**

Focuses on installation and administration of PBX systems. Provides basic information regarding functions and operation of PBX systems. Covers the use of manuals to administer specific commands of the PBX. Prepares students to perform installation and removal of the extensions and program special features system wide. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** ELT 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**BBT 289 (1 credit hours)****Broadband Technology Capstone**

Serves as the capstone course for the Broadband Technology degree program and all of its tracks. Integrates prior learning outcomes into a single integrated learning experience. Includes an exit exam that all program graduates must take. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Business Administration Systems (BAS)

**BAS 110 (3 credit hours)****Worksheets in Business Applications**

Focuses on the application of worksheet features to business practices. Provides students with the knowledge and skills necessary to apply worksheet enhanced functions to derive charts, graphs and tables to aid in analyzing business data. Provides students the opportunity to think critically and find solutions to realistic business problems through use of available data analysis tools. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Computer Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 120 (3 credit hours)****Personal Finance**

Provides information needed to make intelligent choices and to take effective action in the management of personal resources. Applies financial planning, buying, borrowing, saving, budgeting, investing, insurance, and taxes to personal finances. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Completion of or concurrent enrollment in MAT 65 or higher level math or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture



**BAS 125 (3 credit hours)****Social Media Marketing: Fundamental Concepts, Skills, and Strategies**

Cultivates a basic to intermediate understanding of social media history, terminology, and concepts as they apply to the marketing and business sectors. Integrates a working knowledge of platform management and simple social media marketing strategy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Placement scores for college level reading or completion of developmental reading courses.

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 126 (3 credit hours)****Social Media Marketing: Project Management and Implementation Strategies**

Prepares students to create a comprehensive social media marketing campaign, applicable to any business or organization. Learn intermediate social media strategies and best practices for engagement. Introduces the student to social media policy, procedure, and engagement guidelines that will explain how all stakeholders and groups in an organization should monitor and participate in social media interactions. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 155 (3 credit hours)****Personal Selling**

Introduces the professional selling process involving a series of interrelated activities with emphasis on planning and delivery of sales presentations and simulation and role playing of sales techniques. Examines the six selling steps including—prospecting, qualifying, presenting, answering objections, closing, and the after-sale service. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 160 (3 credit hours)****Introduction to Business**

Introduces business careers, terminology, and the interrelationships of business topics. Presents the complexities of business and the impact on communities and their economies. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 170 (3 credit hours)****Entrepreneurship**

Presents topics such as product development, finance, and business plan preparation and their impact on entrepreneurship/small business management. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 200 (3 credit hours)****Small Business Management**

Introduces the facets of establishing and operating and/or owning a small business, including legal forms of business organization, finance, accounting, insurance, governmental regulations and assistance, economics, marketing, and management principles. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 200A (1 credit hours)****Small Business Management**

Examines essential information regarding business and consumer laws for the small business, as well as identifies essential information to finance a small business. Lecture: 1.0 credits (15 contact hours)

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Components:** LEC: Lecture

**BAS 201 (3 credit hours)****Customer Service Improvement Skills**

Students will develop cognitive processes and behavioral skills needed to improve personal and work group effectiveness. Techniques are discussed and demonstrated in assessing internal and external customer needs and develop plans for delivery of quality customer service. Topics include customer's point of view, benchmarking quality customer service processes, developing partnerships with customers, measuring customer satisfaction, self-evaluation, personal mission statements, time management, communication and listening techniques, coaching, mentoring, group problem solving, and decision making techniques. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 212 (3 credit hours)****Introduction to Financial Management**

Introduces the basic concepts of managing financial resources and techniques of financial analysis used for practical business decisions. Demonstrates use of financial ratios to evaluate the past performance of the firm, financial planning techniques, the effect of leverage on profitability and risk, the time value of money, and contemporary approaches to working capital management and capital budgeting. Computes financial ratios, constructs pro forma financial statements, conducts break-even analysis, and computes present and future values of funds. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MAT 105 or MAT 110 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 256 (3 credit hours)****International Business**

Identifies the business and managerial processes in a global context. Examines the importance and impact of the economic, cultural, and political environment on business functions. Determines the effect of management functions as they apply across various cultures. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules

**Components:** LEC: Lecture

**BAS 260 (2 credit hours)****Professional Development and Protocol**

Prepares students approaching the major career transition from college to work either as a graduating student or as a cooperative education student. Focuses on acceptable business protocol and how to project a professional image. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**BAS 267 (3 credit hours)****Introduction to Business Law**

Introduces the state and federal court systems, tort and criminal law, law of contracts, partnership, sale of goods, government regulations, bailment, negotiable instruments, methods of research, and the judicial system (discovery, trial, and appellate processes). Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 270 (1 credit hours)****Business Employability Seminar**

Creates an error-free portfolio of business employment documents, using computer technology to assist with composition, proofreading, and formatting. Demonstrate proper interviewing skills through mock interviews. Course is offered on a Pass/Fail basis. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** (CIT 105 Introduction to Computers, Sophomore Standing, and Business Administration Program Students only) or Consent of Instructor.

**Attributes:** Enrichment Career Counseling, Technical

**Components:** LEC: Lecture

**BAS 274 (3 credit hours)****Human Resource Management**

Introduces basic methods of recruiting, selecting, training, compensating, and maintaining a productive workforce. Examines concepts of effective employee relations including collective bargaining, contract administration, and safety and health programs. Emphasizes techniques for systematic human resource planning and development of policies consistent with government regulations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 and BAS 283) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 280 (1-4 credit hours)****Business Internship**

Provides an opportunity for a work experience related to the student's educational objective and concepts learned in courses required for credential. (One hour of credit, up to a maximum of four credit hours, awarded for every 40 hours of approved work experience, not to exceed 160 hours). Practicum/Internship: 1.0 - 4.0 credits

**Pre-requisite:** Sophomore Standing or Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**BAS 282 (3 credit hours)****Principles of Marketing**

Introduces marketing functions as it applies to various types of business organizations with attention to the marketing concept, including the marketing mix of product, price, promotion, and distribution decisions; international marketing; and social responsibility. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 283 (3 credit hours)****Principles of Management**

Examines the functional framework of planning, organizing, leading, and controlling as it is utilized to introduce the management process. Introduces the interdisciplinary nature of management with the inclusion of relevant aspects of human behavior and rational decision making. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 284 (3 credit hours)****Applied Management Skills**

Applies management theories and techniques with emphasis on the action-skills that managers need for success. Examination of various course topics in this capstone course include: delegating, motivating employees, team building, conflict management, coaching, and managing change. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (BAS 160 and BAS 283) or prior supervisory experience.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 287 (3 credit hours)****Supervisory Management**

Examines the roles and responsibilities of the supervisor, emphasizing human relations skills while recognizing the behavioral factors of individuals and groups in the work environment. Applies conceptual knowledge base and skills to identify and develop the supervisor's role and responsibilities. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 288 (3 credit hours)****Personal and Organizational Leadership**

Recognizes personal leadership skills that are essential for effective team and organizational guidance while examining organizational leadership theories that promote personal and organizational goal setting, ethical management, time management, human relations, effective communication, and fundamentals of synergy. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 289 (3 credit hours)****Operations Management**

Introduces the fundamental concepts, principles, and practices of operations management. Introduces and examines operations management careers, terminology and concepts in both manufacturing and service organizations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 290 (3 credit hours)****Management, Ethics and Society**

Examines the business leadership-government-society relationship. Includes business leadership, ethics, decision-making, social costs, corporate responsibility, governance, global trends and the role of government in business. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 283 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**BAS 291 (3 credit hours)****Retail Management**

Examines retail structure, merchandising, promotions, store control, and decision. Identifies fundamental principles of store organization, consumer behavior, and customer service. Includes retailing trends, opportunities, and problems. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 293 (3 credit hours)****Principles of Finance**

Explains fundamentals of financial concepts and valuation, corporate decisions (with emphasis in financial instruments), the banking system, financial planning, money and interest rates, and capital structure and investments. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 294 (3 credit hours)****Money and Financial Institutions**

Presents financial intermediaries and their markets from an economic standpoint. Emphasizes analysis of financial institutions and their relationship with the money market, capital market, Federal Reserve System, monetary policy, fiscal policy, regulatory environment, international financial influences, and contemporary trends. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 212 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 299 (0.1-6 credit hours)****Selected Topics in Business Management: (Option Topic)**

Technological developments, new business issues, and/or business topics are presented and studied. Lecture: 0.1- 6.0 credits (1.5-90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**BAS 2875 (0.6 credit hours)****Decision Making and Problem Solving in a Quality Culture**

Identifies principles of effective decision making and problem solving with emphasis on enhancing quality workplace cultures. Lecture: 0.6 credits (9 contact hours).

**Components:** LEC: Lecture

## Business and Office Technology (BMO)

**BMO 170 (3 credit hours)****Introduction to Business Management**

This course introduces the concepts and principles of effective business management and includes forms of business ownership, typical business organizational structures, relationship of business to the community, and the effect of government regulations on businesses. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Cardiopulmonary Resuscitation (CPR)

**CPR 100 (1 credit hours)****CPR for Healthcare Professionals**

Cardiopulmonary resuscitation (Adult/Infant/Child) is a course designed to teach current emergency techniques relative to cardiac and/or respiratory arrest, as put forth by the American Heart Association, National Safety Council or American Red Cross. The American Heart Association, National Safety Council or American Red Cross standardized course qualifies a student for certification of cardiopulmonary resuscitation. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Chemistry (CHE)

**CHE 120 (3 credit hours)****Chemistry in Society**

Introduces non-science majors to the main concepts and applications of chemistry in our society. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Math ACT 18 or higher) OR (Completion of quantitative reasoning co-requisite course).

**Attributes:** SN - Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**CHE 125 (1 credit hours)****Chemistry in Society Laboratory**

Reinforces concepts covered in CHE 120 and introduces scientific inquiry through selected experiments. Laboratory: 1 credit (45 contact hours) (45:1 ratio).

**Pre- or co-requisite:** CHE 120.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 130 (3 credit hours)****Introductory General and Biological Chemistry**

Presents the elementary principles of general, organic and biological chemistry. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Math ACT 19 or higher) OR (Completion of MAT 85, MAT 110, MAT 116, MAT 126, or MAT 150 with a grade of "C" or better).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 135 (1 credit hours)****Introductory General and Biological Chemistry Laboratory**

Reinforces concepts covered in CHE 130 and introduces basic laboratory techniques, methods, and instrumentation through selected experiments pertaining to chemical and physical properties, quantitative analysis, qualitative analysis, and the reactions of organic and biomolecules. Laboratory: 1 credit hour (30 contact hours).

**Pre- or co-requisite:** CHE 130 concurrent enrollment OR CHE 130 with a grade of "C" or better.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 140 (3 credit hours)****Introductory General Chemistry**

Introduces topics in general chemistry, including properties of matter, stoichiometry, gases, atomic structure, bonding, acids and bases, oxidation and reduction, and nuclear chemistry. Intended for students interested in a one-semester course in general chemistry and recommended for students seeking careers in allied health fields. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Math ACT 19 or higher) OR (Completion of MAT 85, MAT 110, MAT 116, MAT 126, or MAT 150 with a grade of "C" or better).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 145 (1 credit hours)****Introductory General Chemistry Laboratory**

Reinforces concepts covered in CHE 140 and introduces basic laboratory techniques, methods, and instrumentation through selected experiments dealing with chemical and physical properties, qualitative analysis, and quantitative analysis. Laboratory: 1 credit (45 contact hours, 45:1 ratio).

**Pre- or co-requisite:** CHE 140.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 150 (3 credit hours)****Introduction to Organic and Biological Chemistry**

Continues the sequence begun in CHE 140. Introduces topics in organic chemistry and biochemistry. Introduces organic functional groups, their reactions, and the chemistry of proteins, nucleic acids, carbohydrates, and lipids.

**Pre-requisite:** CHE 140 with a grade of C or better Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 155 (1 credit hours)****Introduction to Organic and Biological Chemistry Laboratory**

Reinforces concepts covered in CHE 150 and introduces basic laboratory techniques, methods, and instrumentation through selected experiments dealing with the preparation, characterization, and purification of organic compounds and the reactions of biomolecules. Laboratory: 1 credit (45 contact hours, 45:1 ratio).

**Pre-requisite:** CHE 140 and CHE 145.

**Pre- or co-requisite:** CHE 150.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 170 (4 credit hours)****General College Chemistry I**

Focuses on major chemical topics, including stoichiometry, atomic structure, properties of matter and the relationship between molecular structure and chemical behavior. Emphasizes solving of mathematical problems which illustrate the principles of chemistry. Designed for students in the sciences, engineering, and pre-professional programs. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** (ACT math score of 22) OR (College Algebra or higher with "C" or better) OR (CHE 130 OR CHE 140 with a grade of "C" or better) OR (Appropriate score on chemistry placement exam).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 175 (1 credit hours)****General College Chemistry Laboratory I**

Reinforces concepts covered in CHE 170 and introduces basic laboratory techniques, methods, and instrumentation through selected experiments. Emphasizes both quantitative and qualitative techniques. Laboratory: 1 credit (45 contact hours, 45:1 ratio).

**Pre- or co-requisite:** CHE 170.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory

**CHE 180 (4 credit hours)****General College Chemistry II**

Continues CHE 170. Focuses on major chemical topics, including acid-base chemistry, kinetics, thermodynamics, and chemical equilibrium. Emphasizes solving of mathematical problems which illustrate the principles of chemistry. Designed for students in the sciences, engineering, and pre-professional programs. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** (CHE 170 with a grade of "C" or better) AND (Completion of College Algebra Readiness course or higher with a grade of "C" or better).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 185 (1 credit hours)****General College Chemistry Laboratory II**

Reinforces concepts covered in CHE 180 and introduces basic laboratory techniques, methods, and instrumentation through selected experiments. Emphasizes both quantitative and qualitative techniques. Laboratory: 1 credit (45 contact hours, 45:1 ratio).

**Pre-requisite:** CHE 175 with a grade of C or better.

**Pre- or co-requisite:** CHE 180.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 270 (3 credit hours)****Organic Chemistry I**

Presents the fundamental principles of organic chemistry. Emphasizes the structures and properties of carbon-containing compounds. Introduces organic reactions, their mechanisms, and applications to synthesis. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CHE 180 with a grade of C or better.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 275 (2 credit hours)****Organic Chemistry Laboratory I**

Introduces common techniques used in the laboratory for purification, separation, identification, and reactions of organic compounds. Laboratory: 2 credit (60 contact hours).

**Pre-requisite:** CHE 185 with a grade of C or better.

**Pre- or co-requisite:** CHE 270.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 280 (3 credit hours)****Organic Chemistry II**

Presents further applications of the principles of organic chemistry. Continues the study of organic reactions, their mechanisms, synthesis and modern spectroscopic techniques. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CHE 270 with a grade of C or better.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**CHE 285 (2 credit hours)****Organic Chemistry Laboratory II**

Explores the synthesis, purification, and characterization of organic compounds in the laboratory. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** CHE 275 with a grade of C or better.

**Pre- or co-requisite:** CHE 280.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**CHE 290 (1-3 credit hours)****Selected Topics in Chemistry: (Topic)**

Presents a topic in chemistry chosen by the instructor. Topics may vary from semester to semester at the discretion of the instructor; course may be repeated with different topics to a maximum of six credit hours. Lecture: 1-3 credits (15-45 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**CHE 295 (1-3 credit hours)****Selected Topics in Chemistry Laboratory: (Topic)**

Explores experiments pertinent to a topic in chemistry chosen by the instructor. Topics may vary from semester to semester at the discretion of the instructor; course may be repeated with different topics to a maximum of six credit hours. Laboratory: 1-3 credits (30-90 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**CHE 299 (1-3 credit hours)****Laboratory Research in Chemistry: (Topic)**

Offers the student the opportunity to perform laboratory research on a problem chosen by the instructor. Course may be repeated to a maximum of six credit hours. Laboratory: 1-3 credits (30-90 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

## Civil Engineering Technology (CET)

**CET 150 (3 credit hours)****Civil Engineering Graphics**

This course provides the opportunity for the student to learn the basic theory necessary to generate and understand typical civil engineering working drawings. The student will develop graphic communication skills using current industry standard software. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** CAD 100.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CET 200 (3 credit hours)****Civil Engineering Materials**

The course will provide a practical look at current practice in the use of materials for civil engineering applications. Students will learn test procedures, design considerations, and overall evaluation methods for these materials. The course will include the study of soils, aggregates, concrete, and asphalt cement. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CET 210 (3 credit hours)****Infrastructure Analysis and Design**

Covers infrastructure for civil engineering technology students, including different types of building loads and their effect upon the various materials used by architects, engineers and technologists. Introduces infrastructure construction techniques utilizing applicable materials and methods. Utilization of industry manuals, specifications, and computer programs to familiarize the student with current technology. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CET 220 (4 credit hours)****Intermediate Surveying**

The course will include the application of surveying practices for route surveying for highways, construction staking, and topographic surveys. Students will perform deed research and evaluation, convert outdated deed descriptions into current measurements, and prepare record plats.

**Pre-requisite:** SMT 110 or Consent of Instructor Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (45 contact hours).

**Components:** LAB: Laboratory, LEC: Lecture

**CET 260 (3 credit hours)****Hydrology and Drainage**

Students will be introduced to the fundamentals of hydrology, including hydraulics of open and closed systems, water quality and drainage. Characteristics of pressures and flows in pipes, storm water runoff, culvert and ditch flow will be studied. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CET 295 (1-4 credit hours)****Independent Problems**

Provide a problem or special project, approved by the instructor, as an opportunity for independent study for Civil Engineering Technology students. Research or study current jobs or previous experience in Civil Engineering related topics. Complete required courses by studying the same materials and topics present during a normal semester offering; thereby allowing the student to complete the required course during a semester that it is not offered. This course may be repeated to a maximum of six credits. Lecture: Variable. Laboratory: Variable.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Class Instruction in Music (MUC)

**MUC 190U (1 credit hours)****Marching Band**

Preparation for and performance at university athletic functions, primarily football games. May be repeated to a maximum of four credits. Lab: 1 credit (45 contact hours).

**Pre-requisite:** Audition and permission of the instructor.

**Attributes:** Other, University Course (University of Kentucky)

**Components:** LAB: Laboratory

**University Course:** University of Kentucky



# Classical Languages and Literature (CLA)

## CLA 131 (3 credit hours)

### Medical Terminology from Greek and Latin

Latin and Greek roots, prefixes, and suffixes as found in medical terminology. Primarily for pre-medical, pre-dental, pre-nursing, and pre-veterinary students, but others will be admitted for help in vocabulary building. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

# Communications (COM)

## COM 101 (3 credit hours)

### Introduction to Communications

Introduces the process of communication as a critical element in human interaction and in society. Enhances effective communication and informed use of the mass media. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## COM 181 (3 credit hours)

### Basic Public Speaking

Applies the basic principles and techniques in research, organization, and delivery of speeches for informative and persuasive speaking purposes. Provides practical platform experience in developing speaking abilities to enable the student to communicate orally in clear, coherent language appropriate to the purpose, occasion, and audience. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Current KCTCS placement scores for college level reading and writing OR Consent of Instructor.

**Attributes:** OC - Oral Communication, Course Also Offered in Modules

**Components:** LEC: Lecture

## COM 184 (1 credit hours)

### Intercollegiate Debating

Preparation for and participation in intercollegiate debating. May be repeated to a maximum of two credits. Lecture: 1 credit (15 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

## COM 205 (3 credit hours)

### Business and Professional Communication

Provides opportunity to examine and develop oral communication strategies appropriate to business and professional environments. Includes oral presentations, interpersonal communication strategies, intercultural communication, interviewing, communicating in teams, leadership communication and conflict resolution skills. Does not substitute for COM 181 for Business transfer students. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Current KCTCS placement scores for College level reading and writing, or Consent of Instructor.

**Attributes:** OC - Oral Communication

**Components:** LEC: Lecture

## COM 249 (3 credit hours)

### Mass Media Communication

Examines mass media messages, audiences, technologies, and regulations in a global society. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Current KCTCS placement scores for College level reading and writing, or Consent of Instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## COM 252 (3 credit hours)

### Introduction to Interpersonal Communication

Examines basic verbal and nonverbal concepts affecting the communication process in various interpersonal contexts. Requires participation in written and oral activities designed to develop and improve interpersonal skills. Includes perspective-taking, relationship and conversation management, effective listening, conflict management, communication climate, communication anxiety, and cultural/gender differences in interpersonal communication. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** Current KCTCS placement scores for college level reading and writing, or consent of instructor.

**Attributes:** OC - Oral Communication, Course Also Offered in Modules

**Components:** LEC: Lecture

## COM 254 (3 credit hours)

### Introduction to Intercultural Communication

Introduces intercultural communication with an emphasis on the relationships between culture and communication, social/psychological variables, verbal/nonverbal language systems, intercultural communication perceptions, and conflict resolution. Includes the practical application of contemporary issues in cross-cultural interaction, media representation, and daily social interactions to intercultural communication concepts. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** Current KCTCS placement scores for college level reading and writing, or consent of instructor.

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## COM 281 (3 credit hours)

### Communication in Small Group

Examines communication processes in small group situations including conflict, leadership, and decision making. Includes participation in group discussion and the development of skills in analyzing group performance. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** Current KCTCS placement scores for college level reading and writing, or consent of instructor.

**Attributes:** OC - Oral Communication

**Components:** LEC: Lecture

## COM 284 (1 credit hours)

### Intercollegiate Debating

Preparation for and participation in intercollegiate debating. May be repeated to a maximum of four credits. Lecture: 1 credit hour (15 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

## COM 287 (3 credit hours)

### Persuasive Speaking

Examines the processes involved in attitude change, with emphasis on the preparation and delivery of persuasive messages. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** COM 181.

**Attributes:** OC - Oral Communication

**Components:** LEC: Lecture



**COM 299 (3 credit hours)****Special Topics in Communication**

A sophomore level study of a selected topic in communication. Lecture: 3.0 credit hours.

**Pre-requisite:** COM 181 or COM 252 or consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**COM 1811 (1 credit hours)****Public Speaking Essentials**

Applies the basic principles and techniques in research, organization and delivery of speeches appropriate to the purpose, occasion, and audience. Lecture: 1.0 credit (15.0 contact hours).

**Pre-requisite:** Current KCTCS placement scores for college level reading and writing OR Consent of Instructor.

**Components:** LEC: Lecture

**COM 1812 (1 credit hours)****Basic Informative Speaking**

Provides practical platform experience in developing speaking abilities to enable the student to communicate orally in clear, coherent language appropriate to the presentation of informative speeches. Lecture: 1.0 credit (15.0 contact hours)

**Pre-requisite:** COM 1811.

**Components:** LEC: Lecture

**COM 1813 (1 credit hours)****Basic Persuasive Speaking**

Provides practical platform experience in developing speaking abilities to enable the student to communicate orally in clear, coherent language appropriate for the presentation of persuasive speeches. Lecture: 1.0 credit (15.0 contact hours).

**Pre-requisite:** COM 1812.

**Components:** LEC: Lecture

**COM 2521 (1 credit hours)****Looking In**

Examines basic verbal and nonverbal concepts affecting the interpersonal process. Includes both verbal and nonverbal elements affecting communication between individuals in settings ranging from the family, peer groups, and work contexts. Pre-requisite Or Lecture: 1.0 credit (15 contact hours).

**Co-requisite:** Current KCTCS placement scores for college level reading and writing, or consent of instructor.

**Components:** LEC: Lecture

**COM 2522 (1 credit hours)****Communicating and Responding**

Examines basic verbal and nonverbal concepts affecting the communication process in various interpersonal contexts. Topics include both verbal and nonverbal elements affecting communication between individuals in setting ranging from the family, peer groups, and work contexts. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** COM 2521.

**Components:** LEC: Lecture

**COM 2523 (1 credit hours)****Looking at Relational Dynamics**

Examines basic verbal and nonverbal concepts affecting the communication process in various interpersonal contexts. Includes the basic needs in developing interpersonal relationship with emphasis on the types of relations and the components involved in such relationships including compliance-gaining and conflict resolution. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** COM 2522.

**Components:** LEC: Lecture

## Community Dental Health (CDH)

**CDH 110 (3 credit hours)****Dental Health Communication Skills**

Provides an overview of oral health communication, oral health literacy, and patient assessment interviewing skills for the Community Dental Health Coordinator. Emphasizes impact of oral health literacy on one's health. Includes communication strategies, verbal and nonverbal communication skills. Covers motivational interviewing, human behaviors, and health concepts emphasizing oral health. Incorporates patient assessment, feedback, education, and behavior change interventions for dental patients. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** Graduate or current enrollment in Commission on Dental Accreditation (CODA) accredited dental hygiene program or KCTCS dental assisting program OR a certified dental assistant OR a registered dental assistant with 5 years experience OR consent of CDHC Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**CDH 115 (3 credit hours)****Dental Health Coordination, Documentation, Reporting, and Finance**

Provides an overview of coordination, documentation and reporting approaches for working with families as well as individuals. Includes family assessment, case documentation and overview of the services system. Covers health care finance, the referral process and components of case management. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Graduate or current enrollment in Commission on Dental Accreditation (CODA) accredited dental hygiene program or KCTCS dental assisting program OR a certified dental assistant OR a registered dental assistant with 5 years experience OR consent of CDHC Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**CDH 125 (2 credit hours)****Dental Health Teaching and Learning Skills**

Provides an overview of teaching and learning skills as they apply to the Dental Health field. Includes teaching and learning techniques, goal setting, critical thinking, and interviewing skills for the dental health advocate. Covers internet usage and security as well as an introduction to concepts of lifelong learning. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Graduate or current enrollment in Commission on Dental Accreditation (CODA) accredited dental hygiene program or KCTCS dental assisting program OR a certified dental assistant OR a registered dental assistant with 5 years experience OR consent of CDHC Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**CDH 220 (3 credit hours)****Dental Health Advocacy and Outreach**

Provides an overview of the Community Dental Health Coordinator responsibilities including advocacy concepts, process of advocacy in the community, advocacy evaluation, and assisting underserved local populations in health and social services. Covers general concepts of writing grants and proposals. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** Graduate or current enrollment in Commission on Dental Accreditation (CODA) accredited dental hygiene program or KCTCS dental assisting program OR a certified dental assistant OR a registered dental assistant with 5 years experience OR consent of CDHC Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**CDH 245 (6 credit hours)****Community Dental Health Coordinator Internship**

Demonstrates practical application of the Community Dental Health Coordinator (CDHC) skills in a practicum setting. Includes knowledge and skills required to organize, develop and manage integrated dental care in community-based clinics within practice standards. Practicum: 6.0 hours (360 contact hours)

**Pre-requisite:** Graduate or current enrollment in Commission on Dental Accreditation (CODA) accredited dental hygiene program or KCTCS dental assisting program OR a certified dental assistant OR a registered dental assistant with 5 years experience OR consent of CDHC Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

## Community Health Worker (CHW)

**CHW 101 (1 credit hours)****Communication for Health Worker**

Teaches effective and purposeful communication by listening carefully and communicating respectfully in ways that help build trust and rapport with clients, community members, colleagues and other professionals. Considers effective communication to include a mix of listening, speaking, gathering and sharing information, and resolving conflict. Explains the Community Healthcare Workers roles, responsibilities, and limits with regards to protecting client privacy and confidentiality. Lecture 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CHW 102 (1 credit hours)****Organizational and Community Outreach**

Explores the use of a variety of outreach methods, such as phone calls, in-person conversations, group presentations, distribution of print and electronic information, and social media, and effectively written reports that will be sent to supervisors and patients as needed. Provides knowledge on effective outreach based on learning about community needs and strengths, knowledge about available resources, and sensitivity to personal and cultural dynamics that affect behavior and relationships. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CHW 103 (1 credit hours)****Advocacy**

Teaches advocacy and capacity building that can help create conditions and build relationships that lead to better health. Explores capacity building requirements such as planning, cooperation, and commitment. Examines working to change public awareness, organizational rules, institutional practices, or public policy. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CHW 104 (1 credit hours)****Health Coaching**

Teaches education for healthy behavior change including providing people with information, tools, and encouragement to help them improve their health and stay healthy over time. Explores working with clients, family or community members, and with providers to address issues that may limit opportunities for healthy behavior. Examines the Community Healthcare Workers role as educator and coach, using a variety of techniques to motivate and support behavior change to improve health. Lab: 1 credit hour (30 contact hours).

**Components:** LAB: Laboratory

**CHW 105 (1 credit hours)****Organization for Community Health Worker**

Teaches how to promote coordinated and effective services by documenting their work activities, including writing summaries of client and community assessments. Examines presenting information to agency colleagues or community partners about their clients and issues they face. Explores the use of computer technology and communication in English. Discusses alternative language arrangements utilizing valuable linguistic capacities, cultural experience, and community relationship. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CHW 106 (1 credit hours)****Legal and Ethics for Community Health Worker**

Teaches how to handle ethical challenges as Community Healthcare Workers address legal and social challenges facing the clients and the communities they serve. Discusses client confidentiality and privacy rights in the context of employer and legal reporting requirements. Explores balancing care for clients with care for self. Examines following agency rules and the regulations governing public and private resources while exercising creativity in helping community members meet their individual and family needs. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Computer Information Systems (CIS)

**CIS 2301 (0.9 credit hours)****Word Processing Level 3**

Uses advanced functions of word processing. Includes working with complex documents and creating and preparing data for distribution on the Web. Lecture: 0.9 credit (13.5 contact hours).

**Pre-requisite:** (CIS 130 or CIS 1301) or consent of instructor.

**Components:** LEC: Lecture

**CIS 2302 (0.9 credit hours)****Spreadsheets Level 3**

Uses advanced functions of spreadsheets. Includes working with complex spreadsheets and the creation and preparation of data for distribution on the Web. Lecture: 0.9 credits (13.5 contact hours).

**Pre-requisite:** (CIS 130 or CIS 1302) or consent of instructor.

**Components:** LEC: Lecture

**CIS 2303 (0.9 credit hours)****Databases Level 3**

Uses advanced functions of databases. Includes working with complex databases and the creation and preparation of data for distribution on the Web. Lecture: 0.9 credit (13.5 contact hours).

**Pre-requisite:** (CIS 130 or CIS 1303) or consent of instructor.

**Components:** LEC: Lecture

**CIS 2304 (0.3 credit hours)****Presentation Software Level 3**

Uses advanced functions of presentation software. Includes working with complex presentations and the creation and preparation of data for distribution on the Web. Lecture: 0.3 credit (4.5 contact hours).

**Pre-requisite:** (CIS 130 or CIS 1304) or consent of instructor.

**Components:** LEC: Lecture

## Computer Information Technology (CIT)

**CIT 105 (3 credit hours)****Introduction to Computers**

Provides an introduction to the computer and the convergence of technology as used in today's global environment. Introduces topics including computer hardware and software, file management, the Internet, e-mail, the social web, green computing, security and computer ethics. Presents basic use of application, programming, systems, and utility software. Basic keyboarding skills are strongly recommended. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Digital Literacy, Course Also Offered in Modules

**Components:** LEC: Lecture

**CIT 111 (4 credit hours)****Computer Hardware and Software**

Presents a practical view of computer hardware and client operating systems. Covers computer hardware components; troubleshooting, repair, and maintenance; operating system interfaces and management tools; networking components; computer security; and operational procedures. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** (CIT 105 AND Quantitative Reasoning College-Readiness) OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 120 (3 credit hours)****Computational Thinking**

Promotes understanding of computer programming and logic by teaching students to think like a computer. Covers skills needed to develop and design language-independent solutions to solve computer-related problems. Covers development and design basics including use of variables, control and data structures, and principles of command-line and object-oriented languages. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Quantitative Reasoning College-Readiness OR Consent of Instructor.

**Pre- or co-requisite:** CIT 105.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 124 (3 credit hours)****Introduction to Game Development**

Presents an overview of the game development process including game development history, platforms, goals, genres, players, story and character development, gameplay, levels, interfaces, audio, development processes, development team roles, marketing, and maintenance. Offers students the opportunity to play and analyze games facilitating discussion on game design and function. Completion of partial game design will occur. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** CIT 105 OR IMD 100 OR Consent of Instructor.

**Co-requisite:** CIT 221 OR IMD 221.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 125 (3 credit hours)****Intro to Digital Maps**

Provides basic theories and concepts of geographical information systems including basic GIS capabilities, data analysis, data types, coordinate systems, cartography and mapping concepts. Introduces GIS software using industry-specific applications and technology to provide a conceptual base to build expertise in GIS. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 105 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 130 (3 credit hours)****Productivity Software**

Utilizes current word processing, spreadsheet, database, and presentation application software to solve common business problems. Covers basic features of each software application. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 105 OR OST 105 OR IMD 100 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 140 (3 credit hours)****JavaScript I**

Provides students with an overview of the JavaScript scripting language. Includes coding, testing, and debugging JavaScript programs; using variables, operators, and data types; creating dynamic web pages using JavaScript; controlling the behavior of forms, buttons, and text elements; and using control structures, pattern matching, objects, and application scripts. Pre-requisite: CIT 120 AND (CIT 150 or CIT 155) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 141 (3 credit hours)****PHP I**

Explores the fundamentals of PHP, with emphasis on syntax, structure, and current usage. Includes dynamic generation of web pages, fluid forms, and web security. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 142 (3 credit hours)****C++ I**

Introduces students to fundamental programming concepts using the C++ programming language. Includes data types, control structures, simple data structures, error-handling, modular programming, and information and file processing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 143 (3 credit hours)****C# I**

Introduces students to fundamental programming concepts using the C# programming language. Includes data types, control structures, simple data structures, error-handling, object-oriented programming, graphical user interfaces, and modular programming. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 144 (3 credit hours)****Python I**

Introduces students to fundamental programming concepts using the Python programming language. Includes data types, control structures, simple data structures, error-handling, modular programming, object-oriented programming, graphical user interfaces and file processing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 145 (3 credit hours)****Perl I**

Provides students with an overview of the PERL scripting language. Includes coding, testing, and debugging PERL programs; using variables, operators, and data types; and using control structures, pattern matching, objects, and application scripts. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of the Instructor.

**Components:** LEC: Lecture

**CIT 146 (3 credit hours)****Swift I**

Introduces students to fundamental programming concepts using the Swift programming language. Includes data types, data structures, error-handling, event driven programming, and using Xcode. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 147 (3 credit hours)****Programming I: Language**

Introduces students to fundamental programming concepts using an industry-specific or emerging programming language. Includes data types, control structures, simple data structures, error-handling, modular programming, information and file processing, and uniqueness of the language used in the course. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 148 (3 credit hours)****Visual Basic I**

Introduces students to fundamental programming concepts using the Visual Basic programming language. Includes data types, control structures, simple data structures, error-handling, modular programming, event-driven programming, graphical user interfaces, and file processing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 149 (3 credit hours)****Java I**

Introduces students to fundamental programming concepts using the Java programming language. Includes data types, control structures, simple data structures, error-handling, object-oriented programming, graphical user interfaces, and modular programming. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 120 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 150 (3 credit hours)****Internet Technologies**

Provides students with a study of traditional and emerging Internet technologies. Covers topics including Internet fundamentals, Internet applications, Internet delivery systems, and Internet client/server computing. Provides a hands-on experience and some rudimentary programming in an Internet environment. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 105 OR Consent of Instructor.

**Co-requisite:** CIT 120.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 151 (3 credit hours)****Social Media I**

Introduces students to the study of social media. Covers topics including the uses, basic tools, and impact of social media upon society. Examines the benefits for business to leverage the use of social media as well as employing social media policy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Digital Literacy or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 152 (3 credit hours)****Social Media Tools and Technologies**

Introduces students to web-based social media tools. Explores and researches online applications, social networks, and web branding. Develops skills to leverage social media applications and niche markets to increase business presence. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 150 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory



**CIT 155 (3 credit hours)****Web Page Development**

Introduces web page design through the use of HTML and CSS. Uses text and/or web editors to create web documents with various formats and page layouts, multimedia, tables and forms. Emphasizes W3C web design and accessibility standards. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 105 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 157 (3 credit hours)****Web Site Design and Production**

Introduces web site production processes with particular emphasis on design involving layout, navigation, interactivity, and using web production software. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** CIT 105 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 160 (4 credit hours)****Intro to Networking Concepts**

Introduces technical level concepts of non-vendor specific networking including technologies, media, topologies, devices, management tools, and security. Provides the basics of how to manage, maintain, troubleshoot, install, operate, and configure basic network infrastructure. Pre-requisite Or 0 credits (60 contact hours).

**Pre-requisite:** Quantitative Reasoning College-Readiness OR Consent of Instructor.

**Co-requisite:** CIT 111 OR Consent of Instructor Lecture: 4.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 161 (4 credit hours)****Introduction to Networks**

Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. Introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Helps students to be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** Quantitative Reasoning College-Readiness OR Consent of Instructor.

**Pre- or co-requisite:** CIT 111 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 167 (4 credit hours)****Switching & Routing Essentials**

Covers the architecture, components, and operations of routers and switches in a larger and more complex network. Helps students learn how to configure and troubleshoot routers and switches for advanced functionality including proper LAN design, configuring and troubleshooting routers and switches and resolving common issues with VTP, DTP, STP protocols, link aggregation protocols and dynamic routing protocols in both IPv4 and IPv6 networks. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** CIT 161 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 170 (3 credit hours)****Database Design Fundamentals**

Provides an overview of database and database management system concepts, internal design models, normalization, network data models, development tools, and applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** [(CIT 105 OR OST 105 OR IMD 100) AND Quantitative Reasoning College-Readiness] OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 171 (3 credit hours)****SQL I**

Provides students with an extensive introduction to database manipulation techniques. Introduces students to SQL; will create and maintain database objects; and store, retrieve, and manipulate data using SQL. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (CIT 120 and CIT 170) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 180 (3 credit hours)****Security Fundamentals**

Introduces basic computer and network security concepts and methodologies. Covers principles of security; compliance and operational security; threats and vulnerabilities; network security; application, data, and host security; access control and identity management; and cryptography. Helps to prepare students for the COMPTIA Security+ examination. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (CIT 160 OR CIT 161) OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 182 (3 credit hours)****Perimeter Defense**

Presents information and skills required to secure computers and networks from attacks with an emphasis on configuration of firewalls and intrusion-detection systems. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 180 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 184 (3 credit hours)****Attacks and Exploits**

Provides knowledge and skills necessary to understand a variety of attacks and exploits against computers and networks. Teaches effective defensive techniques against real attacks. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 180 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 201 (3 credit hours)****Information Storage Management**

Provides a comprehensive introduction to storage technology. Explores the architectures, features, and benefits of intelligent storage systems, networked storage technologies, long-term archiving solutions, information security, and the emerging field of storage virtualization and cloud technologies. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** [CIT 167 AND (CIT 214 OR CIT 217 OR CIT262)] OR Consent of Instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture



**CIT 203 (3 credit hours)****Introduction to Virtualization**

Provides an introduction to virtualization technologies including the architecture, its applications, and best practices. Utilizes VMware ESXi servers and VMware vCenter servers for creation and management of virtual machines, virtual switches and storage architectures including distributed resource scheduling, high availability, and fault tolerance. Satisfies the requirements for the vSphere Foundations exam and the VMware Certified Associate Data Center Virtualization (VCA-DCV). Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** [CIT 167 AND (CIT 214 OR CIT 217 OR CIT 262)] OR Consent of Instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**CIT 204 (3 credit hours)****VMware Optimize and Scale**

Provides advanced skills for configuring and maintaining a highly available and scalable virtualization infrastructure. Utilizes techniques to optimize resources in a virtualized data center to support infrastructure as a service (IaaS) architectures. Satisfies the VMware Certified Professional/Data Center Virtualization (VCP-DCV) course requirement. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** CIT 203 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 205 (3 credit hours)****Cloud Infrastructure and Services**

Provides a comprehensive introduction to cloud computing deployment and service models, cloud infrastructure, and the key considerations in migrating to cloud computing. Examines the required technology essentials across all domains including server, storage, networking, applications, and databases to help develop a strong understanding of virtualization and cloud computing technologies. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** (CIT 201 and CIT 203) or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 206 (3 credit hours)****Amazon Web Services Practitioner**

Introduces the fundamentals of the services available in Amazon Web Services (AWS). Teaches an overall understanding of AWS Cloud, independent of specific technical roles. Uses a hands-on approach to solution development using actual AWS cloud services. Provides a detailed overview of cloud concepts, AWS services, security, architecture, pricing, and support. Prepares students for the AWS Certified Cloud Practitioner exam. Integrated Lecture/Lab 3.0 credits (60 contact hours).

**Pre-requisite:** CIT 170 AND (CIT 161 OR CIT 160), or consent of the instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**CIT 207 (3 credit hours)****Amazon Web Services Architecting**

Covers building IT infrastructure on Amazon Web Services (AWS). Teaches how to optimize use of the AWS platform by understanding AWS services and how those services fit into cloud-based solutions. Teaches how to develop and maintain a well-architected AWS cloud solution. Covers cloud solution reliability, efficiency, and cost-optimization strategies. Emphasizes best practices for the AWS cloud including the process of architecting optimal solutions. Offers a hands-on approach to solution development using actual AWS cloud services. Integrated Lecture/Lab: 3 credits (50 contact hours).

**Pre-requisite:** CIT 206 AND CIT 167, or consent of instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**CIT 208 (3 credit hours)****AWS Systems Operations**

Covers the responsibilities, tasks required to build (create), test, deploy, monitor, maintain, and safeguard complex computing systems. Provides an overview of the development of reusable infrastructure templates, which are then tested, deployed, monitored, maintained, and safeguarded, including the development of reusable infrastructure templates. Describes the create systems operations activity. Prepares students to pass the associate-level AWS Certified SysOps Administrator Associate Exam. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CIT 206 or permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 209 (4 credit hours)****Scaling Networks**

Covers the architecture, components, and operations of routers and switches in a larger and more complex network. Helps students learn how to configure routers and switches for advanced functionality. Helps students to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Helps students to develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** CIT 167 or Consent of instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 209C (1 credit hours)****Intro to EIGRP**

Covers the architecture, components, and operations of routers and switches in a larger and more complex networks. Helps students learn how to configure and troubleshoot routers and switches for advanced functionality including configuring and troubleshooting routers and switches and resolving common issues with dynamic routing protocols in both IPv4 and IPv6 networks. Lecture: 1 credit (contact hours).

**Pre-requisite:** CIT 209B OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 212 (4 credit hours)****Connecting and Scaling Networks**

Covers WAN technologies and network services required by converged applications in a complex network. Enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Helps students to develop the knowledge and skills needed to implement virtual private network (VPN) operations in a complex network. Develops skills in network security using OSPFv2, ACLs, NAT. Covers network automation, troubleshooting and virtualization. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** CIT 167 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 213 (3 credit hours)****Microsoft Client Configuration**

Covers installation and configuration of the current Microsoft Windows client operating system. Helps prepare students for exams in the Microsoft certification exam series. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (CIT 111 AND (CIT 160 OR CIT 161)) OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 217 (3 credit hours)****UNIX/Linux Administration**

Developed in 1969, the UNIX operating system shaped the development of the Internet and is still used extensively in servers, workstations, and mobile devices. Learn the fundamental skills necessary to install UNIX/Linux and maintain a UNIX/Linux system on a day-to-day basis. Lecture/Lab: 3.0 credits (60 contact hours)

**Pre-requisite:** [CIT 111 AND (CIT 160 OR CIT 161)] OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 218 (3 credit hours)****UNIX/Linux Net Infrastructure**

Establishing secure networking environments is a key strength of the UNIX/Linux operating system. Explores naming, messaging, file transfer, remote login, routing, address assignment, distributed file systems, web, and email services in a standard UNIX/Linux server environment. Lecture/Lab: 3.0 credits (60 contact hours)

**Pre-requisite:** CIT 217 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 219 (3 credit hours)****Internet Protocols**

Provides an in-depth exploration of the components of the TCP/IP protocol suite and the associated underlying technologies required to support them. Includes design, installation, configuration, management, and troubleshooting of TCP/IP networks. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** (CIT 160 OR CIT 161 OR CIT 162) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 221 (3 credit hours)****Computer Graphics**

Introduces basic computer graphics with an emphasis on graphics for game design. Instructs students in practical aspects of graphics such as color, ray tracing, rasterization, shading, mapping, light, and shadow. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 105 OR IMD 100 OR Consent of Instructor.

**Co-requisite:** CIT 124 OR IMD 124.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 222 (3 credit hours)****3D Modeling for Video Games**

Instructs students in the use of industry-standard 3D modeling software specific to the video-game industry. Emphasizes both architectural and character modeling. Familiarizes the student with key 3D modeling concepts and methods, workflow, and the creation and preparation of 3D assets for use specifically in a video-game application. Allows students to create a variety of 3D assets. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CIT/IMD 221 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 223 (3 credit hours)****3D Animation for Video Games**

Exposes students to the specialized process of animating 3D assets for gaming applications. Familiarizes students with animating both organic and inorganic assets, lighting scenes, rendering and producing cut-scenes, and preparing character assets for in-game motion. Allows students to acquire the necessary skills and techniques to integrate audio with their animations using basic sound-engineering software and processes. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor.

**Co-requisite:** CIT 273 OR IMD 273.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 225 (3 credit hours)****GIS Data Analysis**

Explores Geographical Information System extensions. Introduces and identifies popular advanced extensions used for image analysis, spatial analysis, and 3D analysis. Collection and analysis of field data utilizing GPS devices and data collection applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 125 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 227 (3 credit hours)****Introduction to UNIX/Linux Administration**

Examines the fundamental skills necessary to install UNIX/Linux and maintain a UNIX/Linux system on a day-to-day basis. Includes installation, networking, file systems, virtualization, and system log files. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** (CIT111 AND an Approved Level I Networking Course) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CIT 228 (3 credit hours)****Advanced UNIX/Linux Administration**

Provides a deeper understanding of UNIX/Linux administration skills, including storage configuration, security management, task control, and installation and deployment of UNIX/Linux. Lecture: 2 credits (30 contact hours) Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** CIT 227 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CIT 229 (3 credit hours)****Selected Topics in GIS**

Explores selected topics in Geographical Information Systems such as homeland security, agriculture, government applications, remote sensing, spatial modeling, GPS techniques, or cartography. (Course may be repeated with different topics to a maximum of six credit hours.) Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 125 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 232 (3 credit hours)****Help Desk Operations**

Introduces a variety of tools and techniques to provide user support in help desk operations. Explores help desk concepts, customer service skills, troubleshooting problems, writing for end users, help desk operations and software, needs analysis, facilities management, and other topics related to end user support. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 111 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 234 (3 credit hours)****Advanced Productivity Software**

Uses advanced functions of word processing, presentation, and email software. Includes working with complex documents creating and preparing data distribution on the web. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 130 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 236 (3 credit hours)****Adv Data Organization Software**

Uses advanced functions of databases and spreadsheets. Explores complex databases and spreadsheets for the creation and preparation of data distribution on the Web. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 130 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 237 (3 credit hours)****iOS Programming**

Introduces students to fundamental iOS mobile application development concepts. Prepares students to design, code, test, and publish iOS mobile applications for iOS platforms. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** CIT 146 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 238 (3 credit hours)****Android Programming I**

Introduces students to fundamental Android mobile application development concepts. Prepares students to design, code, test, and publish Android mobile applications for a variety of mobile device platforms. Includes secure coding learning modules for Java and Android. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** CIT 149 OR INF 120 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 241 (3 credit hours)****PHP II**

Explores the dynamic features of PHP and how it can interact to form spontaneous websites and dynamic feature rich content. Lecture: 3.0 (45 contact hours).

**Pre-requisite:** CIT 141 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 242 (3 credit hours)****C++ II**

Introduces students to advanced programming concepts using C++. Includes advanced data structures, concurrency, innovative algorithms, advanced file processing, and topics that are unique to C++. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 142 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 243 (3 credit hours)****C# II**

Provides students with an extensive overview of designing and developing advanced object-oriented applications using the C# programming language. Includes advanced graphical user interfaces, event-driven programming, advanced data types and structures, concurrency, file and data base processing, mobile computing, and other advanced topics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 143 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 244 (3 credit hours)****Python II**

Provides students with an extensive overview of designing advanced computer applications using the Python programming language. Includes graphical user interfaces, event-driven programming, modular programming, advanced object-oriented programming, advanced data types and structures, input validation, error-handling, database processing, and client/server programming. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 144 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 247 (3 credit hours)****Programming II: Language**

Introduces students to advanced programming concepts using an industry-specific or emerging programming language. Includes advanced features of the language studied, such as, advanced data structures, concurrency, innovative algorithms, advanced file processing, and topics that are unique to the language studied. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 147 (for the same programming language) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 248 (3 credit hours)****Visual Basic II**

Provides students with an extensive overview of designing advanced computer applications using the Visual Basic programming language. Includes graphical user interfaces, event-driven programming, modular programming, object-orientated programming, advanced data types and structures, input validation, error-handling, and file and database processing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 148 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 249 (3 credit hours)****Java II**

Provides students with an extensive overview of designing and developing advanced object-oriented applications using the Java programming language. Includes input and output streams (file processing), polymorphism, inheritance, multithreading, recursion, and other advanced topics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 149 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 251 (3 credit hours)****Social Media II**

Provides students with skills, knowledge, and experience to respond to the challenges of a rapidly changing world through the implementation of social media strategies. Examines social media plans for building social profiles, selecting appropriate audiences, and effective communication through identified social media tools. Covers additional trends, case studies, and research on the creation on utilization of web and social media technologies and practices. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 151 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 253 (3 credit hours)****Data Driven Web Pages: (Topic)**

Provides students with the knowledge and skills to design, implement, and manage a database-driven web site. Includes the study of databases and web servers in e-commerce, transaction processing, and client-side and server-side Web scripting. Includes the creation of a database-driven Web site. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((CIT 150 OR CIT 155 OR CIT 157) AND CIT 170 AND Approved Level I Programming Language) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 255 (3 credit hours)****Web Server Administration**

Provides an in-depth study of the functions required to run a safe and stable web server. Considers multiple web services on multiple platforms from installation to configuration, availability, and security. Requires hands-on experiences with web services. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((CIT 150 OR CIT 155 OR CIT 157) AND (CIT 214 OR CIT 228 OR CIT 262) AND CIT 219 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 257 (3 credit hours)****Applied Internet Technologies**

Provides a framework for integrating the content of the Internet Technologies Web Programming track into a complete and functioning web site. Creates a portfolio of a fully functional web site to aide in student employment within the Web Programming field. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** CIT 253 or Co-Requisite of CIT 255 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 258 (3 credit hours)****Internet Technologies Seminar**

Incorporates research, study, and discussion of current and emerging topics, issues, and trends in Internet technologies. Requires participation in class presentations, as well as individual and/or group projects involving Internet technologies. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** CIT 253 or Co-Requisite of CIT 255 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 260 (3 credit hours)****Network Hardware Installation and Troubleshooting**

Provides students with the knowledge and skills necessary to design, install, configure, and troubleshoot cabling systems and equipment used to connect a local area network. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** CIT 160 OR CIT 161 OR Consent of Instructor.

**Components:** LAB: Laboratory, LEC: Lecture

**CIT 261 (3 credit hours)****MS Active Directory Services**

Provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows Directory Services. Focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers. Assists in prepping students for exams in the Microsoft certification exam series. Prerequisite: (CIT 111 AND (CIT 160 OR CIT 161)) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture



**CIT 262 (3 credit hours)****MS Network Infrastructure**

Provides students with the knowledge and skills necessary to install, configure, manage, and support a network infrastructure using a Microsoft Windows server operating system. Assists in prepping students for exams in the Microsoft certification exam series. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (CIT 111 AND (CIT 160 OR CIT 161)) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 263 (1-6 credit hours)****Advanced Topics in Microsoft Windows: (Topic)**

Covers concepts and/or skills from special areas of interest in Microsoft Windows operating systems. Focus on specific topics that will vary from semester to semester at the discretion of the instructor. Lecture: 1-6 credits (15-90 contact hours).

**Pre-requisite:** CIT 213 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 264 (3 credit hours)****Microsoft Server Management**

Focuses on the concepts and skills required to manage and maintain Microsoft Windows Servers. Topics include configuration and management of storage solutions, deployment images, Hyper-V implementations, and Windows containers. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** CIT 262 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 267 (3 credit hours)****UNIX/Linux Network Services**

Focuses on installing and managing network services in a UNIX/Linux environment. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CIT 228 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 271 (3 credit hours)****SQL II**

Provides an extensive overview of SQL using programming to create, query, manage and maintain databases. Uses advanced features of SQL, including stored procedures and triggers, to design and interface with a database and other applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 171 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 273 (3 credit hours)****Game Production**

Provides students with the opportunity to produce a fully playable 3D video game using assets and materials created in previous courses. Offers students the opportunity to employ an industry-standard game engine to meld 3D content, audio, narrative, character, and environment into a professional and enjoyable video game experience. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor.

**Co-requisite:** CIT 223 OR IMD 223.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 274 (3 credit hours)****Seminar in Game Development**

Encompasses the three phases of game design and development: conception, creation, and marketing in this project-oriented seminar. Requires participation in class presentations, individual and group projects, development of a game, and creation of a portfolio. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT/IMD 223 AND CIT/IMD 273 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 277 (3 credit hours)****Programming III: Language**

Introduces students to complex programming concepts using an industry-specific or emerging programming language. Includes complex features of the language not previously covered in Programming I and Programming II. Comprehensive projects will be developed that model work performed in a corporate environment. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 247 (for the same programming language) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 278 (3 credit hours)****Visual Basic III**

Provides students with the knowledge and skills to design, develop, and implement distributed and Web client applications using the Visual Basic programming language. Includes advanced application and user interface design, custom libraries, ActiveX Objects, stored procedures, and distributed applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 248 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 284 (3 credit hours)****Computer Forensics**

Provides basic knowledge on methods and processes for computer forensics, intrusion detection, evidence collection, disk imaging, and report writing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 180 OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 285 (3 credit hours)****MS Windows OS Security**

Provides students the knowledge and skills necessary to secure the Windows operating system. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 180 AND (CIT 214 OR CIT 262) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 286 (3 credit hours)****UNIX/Linux OS Security**

Provides students the knowledge and skills necessary to secure the UNIX/Linux operating system and to utilize the UNIX/Linux operating system for security functions. Emphasizes use of freely available security tools. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (CIT 180 AND CIT 228) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



**CIT 287 (3 credit hours)****Cisco OS Security**

Provides students with comprehensive understanding of network security concepts. Includes installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices. Covers implementation of hosts and perimeter edge device firewalls and defense in-depth prevention systems. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 167 OR CIT 212 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 288 (3 credit hours)****Network Security**

Provides students with the knowledge and skills necessary to understand and defend against a variety of computer and network attacks. Focuses on both the offensive techniques used to launch attacks and the defensive techniques required to defend computers and networks. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** (CIT 180 AND Level 1 Network Technologies Specialization Sequence) OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 290 (3 credit hours)****Internship**

Provides on-the-job experience in computer and information technologies, requiring a minimum of 120 clock hours of appropriate experience approved by the faculty member (40 clock hours per credit); requires a learning contract, signed by the student, faculty member, and supervisor. Note: Course is offered on pass-fail basis only. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 291 (3 credit hours)****CIT Capstone**

Apply acquired techniques, knowledge, and skills to successfully analyze, design, and plan a CIT project. Develop key project management and system analysis deliverables in a portfolio. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** 36 credit hours of CIT Courses OR Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CIT 293 (1 credit hours)****CIT Employability Studies**

Creates an error-free portfolio of employment documents, using computer technology to assist with composition, proofreading, and formatting. Demonstrate proper interviewing skills through mock interviews. Complete a Career Path Employability Assessment. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** (Sophomore Standing AND 18 credit hours of CIT courses) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 295 (1-3 credit hours)****Independent Problems in CIT: Topic**

Explores concepts and/or skills from special areas of interest in Computer & Information Technologies. Topics vary from semester to semester. May be repeated up to two times with different topics to a maximum of 6 credit hours. Lecture: 1.0 - 3.0 credits (15 - 45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 297 (3 credit hours)****CIT Professional Preparation**

Prepares CIT students approaching the major career transition from college to work to demonstrate a professional image. Requires an error-free portfolio of employment documents using computer technology to assist with composition, proofreading, and formatting. Instructs students on proper interviewing skills through mock interviews. Includes completion of a Career Path Employability Assessment. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Sophomore Standing AND 18 credit hours of CIT courses) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 299 (1-3 credit hours)****Special Topics in CIT: (Topic)**

Explores concepts and/or skills from special areas of interest in computer and information systems. May be repeated with different topics to a maximum of 6 credit hours. Lecture: 1.0 - 3.0 credits (15-45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CIT 1051 (0.5 credit hours)****Computer Basics**

Provides an introduction to the computer and the convergence of technology including computer hardware and software, the social web, green computing, security and computer ethics. Lecture: 0.5 credits (7.5 contact hours).

**Pre-requisite:** RDG 20 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1052 (0.6 credit hours)****System and Utility Software**

Introduces file management and presents basic use of systems and utility software. Lecture: 0.6 credits (9.0 contact hours).

**Pre-requisite:** RDG 20 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1053 (0.8 credit hours)****Internet, Email, and Networks**

Introduces the Internet, e-mail, course management systems and networking. Lecture: 0.8 credits (12 contact hours).

**Pre-requisite:** RDG 20 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1054 (0.5 credit hours)****Globalization and the Cloud**

Introduces globalization and impact and use of cloud computing. Lecture: 0.5 credits (7.5 contact hours).

**Pre-requisite:** RDG 20 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1055 (0.6 credit hours)****Software Basics**

Presents basic use of application and programming software. Lecture: 0.6 credits (9 contact hours).

**Pre-requisite:** RDG 20 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1113 (1 credit hours)****Operating Systems and Tools**

Provides a practical view of operating system interfaces and management tools. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** CIT 1112 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1251 (1 credit hours)****Intro to Projection**

Projections, coordinate systems and basic mapping software utilization are introduced. Lecture: 1.0 credits (15 contact hours).

**Pre-requisite:** CIT 105 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1424 (0.8 credit hours)****C++ Arrays and Pointers**

Introduces arrays and pointers for the C++ language. Identifies errors and code efficiency. Lecture: 0.8 credits (12 contact hours).

**Pre-requisite:** CIT 1423 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1671 (0.3 credit hours)****Intro to Switching**

Covers basic concepts and operation of switched networks, including LAN design, architecture and components. Describes basic operations of switches including configuration and port security. Lecture: 0.3 (4.5 contact hours).

**Pre-requisite:** CIT 161 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 1821 (0.8 credit hours)****Security Defense and Protocols**

Presents information and skills required to secure computers and networks from attacks. Lecture: 0.8 credits (12 contact hours).

**Pre-requisite:** CIT 180 or consent of instructor.

**Components:** LEC: Lecture

**CIT 1822 (0.8 credit hours)****Firewalls**

Presents information and techniques for configuring and using firewalls to secure computers and networks. Lecture: 0.8 credits (12 contact hours).

**Pre-requisite:** CIT 1821 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 2321 (1 credit hours)****Help Desk & Customer Service**

Explores help desk concepts and customer service skills. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** CIT 105 OR Consent of Instructor.

**Components:** LEC: Lecture

**CIT 2644 (0.75 credit hours)****Windows Server Security**

Provides management and monitoring of windows servers including security. Lecture: 0.5 credits (7.5 contact hours). Lab: 0.25 credits (7.5 contact hours).

**Pre-requisite:** CIT 2643 OR Consent of Instructor.

**Components:** LEC: Lecture

# Computer Science (CS)

**CS 115U (3 credit hours)****Introduction to Computer Programming**

This course teaches introductory skills in computer programming using a high-level computer programming language. There is an emphasis on both the principles and practice of computer programming. Covers principles of problem solving by computer and requires completion of a number of programming assignments. Lecture: 3.0 credits (45 contact hours).

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**CS 215U (4 credit hours)****Introduction to Program Design, Abstraction, and Problem Solving**

The course covers introductory object-oriented problem solving, design, and programming engineering. Fundamentals elements of data structures and algorithm design will be addressed. An equally balanced effort will be devoted to the three main threads in the course: concepts, programming language skills, and rudiments of object-oriented programming and software engineering. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** CS 115, 221 or equivalent.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**CS 216U (3 credit hours)****Introduction to Software Engineering**

Software engineering topics include: life cycles, metrics, requirements specifications, design methodologies, validation and verification, testing, reliability and project planning. Implementation of large programming projects using object-oriented design techniques and software tools in a modern development environment will be stressed. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CS215.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**CS 275U (4 credit hours)****Discrete Mathematics**

Topics in discrete math aimed at applications in Computer Science. Fundamental principles: set theory, induction, relations, functions, Boolean algebra. Techniques of counting: permutations, combinations, recurrences, algorithms to generate them. Introduction to graphs and trees.

**Pre-requisite:** MA 113 and CS 115.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

# Computer-Aided Design (CAD)

## CAD 100 (3 credit hours)

### Introduction to Computer Aided Design

Applies fundamental principles and capabilities of CAD, basic drafting conventions, and operations. Provides an in-depth study of computer aided drafting commands, terminology, command utilization, and skill development. Lecture: 1.0 credit (15 contact hours). Laboratory: 2.0 credits (60 contact hours).

**Attributes:** Digital Literacy, Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

## CAD 102 (4 credit hours)

### Drafting Fundamentals

Explores the fundamentals of drafting in the use of equipment through measurement of lines, angles, circles, arcs, and irregular curves; alphabet of lines; freehand sketching; geometric constructions; orthographic projection; characteristics of lines and planes; lettering; and dimensioning techniques. Lecture/Lab: 4.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 108 (3 credit hours)

### Introduction to Surveying

Introduces the elements of surveying including measurements, distance corrections, leveling, angles, area computation, computer calculations, topographic surveying, electronic distance measuring instruments, construction surveying, GPS, and GIS. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 112 (4 credit hours)

### Engineering Graphics

Explores lines and planes as they relate to orthographic projection to show the size and shape of objects, as well as for descriptive geometry in solving advanced problems. Includes application of principles and graphic elements of sectioning; techniques involved in oblique projections, axonometric projections, and perspective drawings; and dimensioning techniques and symbol usage common to all drafting disciplines. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 102 with a grade of C or better or Approval of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 120 (4 credit hours)

### Introduction to Architecture

Introduces a practical approach to architectural drafting using board and/or computer aided drafting methods as it relates to residential and commercial architecture, specifications, and structural systems including wood, masonry, concrete, and steel. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 130 (4 credit hours)

### Descriptive Geometry

Examines the spatial relationships between points, lines, and planes in various orthographic projections with graphical solutions; explores the processes to solve problems using auxiliary view projection methods, revolutions, intersections, and developments. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 112 with a grade of C or better or approval of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 150 (4 credit hours)

### Programming in CAD

Introduces fundamental principles of the computer language(s) that represents and interfaces with the main CAD software. Includes writing subroutines and programs to perform CAD functions not available in the main CAD software. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## CAD 200 (4 credit hours)

### Intermediate Computer Aided Drafting

Produce advanced two- and three-dimensional object drawings with CAD software to learn the techniques of drafting, layering, and symbols associated with one or more design applications, and calculate perimeters, areas, and mass associated with the drawings. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 201 (4 credit hours)

### Parametric Modeling

Introduces parametric modeling and design of a CAD workstation in exploring the techniques associated with drafting and design using parametric modeling software. Introduces creation of parametric models and explores associative function and flexibility of concurrent part design. Lecture: 4.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## CAD 212 (4 credit hours)

### Industrial Drafting Processes

Explores weldment design, welding symbols, welding processes, and fabrication techniques, tool and die, and jig and fixture drawings. Includes design specifications, pattern drawings, casting, forming processes, and mechanical drawing principles in relation to the manufacturing industry. Covers screw-thread design and related fastening concepts as they relate to manufactured items and construction. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 216 (4 credit hours)****Building Information Modeling**

Introduces Building Information Modeling (BIM), an intelligent model-based process that provides insight to help plan, design, construct, manage buildings and infrastructure through three dimensional models, and generate construction drawing sheet sets. Creates structures for analytical purposes such as visualization, quality take off, cost estimating, scheduling, coordination and facility management across various fields, including architectural, structural and mechanical, electrical, and plumbing. Using BIM technology enables discovery of potential conflicts between these fields. Lecture/Lab: 4.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 220 (4 credit hours)****Architectural Design**

Applies the theory of architectural design and presentation techniques. Deals with site selection, use of materials in design, spatial relationships, and aesthetics. Explores traditional and contemporary design, designers, processes, and historical milestones. Uses board and computer techniques to illustrate interiors and exteriors of student designs. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 120 with a grade of C or better or approval of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 222 (4 credit hours)****Mechanical Design**

Explores the design principles, mechanical adaptation, and drawing practices involved in the development of mechanical working drawings and the design principles in various manufacturing disciplines; gear drawing and design, and cam and follower drawing and design; mechanical assemblies, machine design, power transmission, bearings, and seals in assemblies. Involves shop processes in these mechanical designs. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 100 with a grade of C or better or approval of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 230 (4 credit hours)****Construction Techniques**

Covers the elements for constructing standard residential and commercial structures; essentials of standard construction details, which illustrate the various construction methods involved in wood frame, solid masonry, masonry veneer, concrete, and steel construction. Includes the development of a portfolio for these techniques. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 120 with a grade of C or better or approval of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 240 (4 credit hours)****Advanced Dimensioning and Measurement**

Presents an in-depth study of advanced industrial dimensioning principles, tolerances, fits, and A.N.S.I. standards. Explores shape and geometric characteristics of parts through geometric dimensioning and tolerancing through drawing application and study. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 100 with a grade of C or better or approval of the Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 252 (4 credit hours)****Commercial Detailing**

Explores commercial drafting building codes, building structure, materials, and structural drawing and detailing. Emphasizes calculations to determine appropriate structural members. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 120 with a grade of C or better or Approval of the Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 262 (4 credit hours)****Working Drawings**

Prepare a set of working drawings to be used in a portfolio that shows mastery of the architectural drawing processes and knowledge of building construction techniques. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** CAD 120 with a grade of C or better or approval of the Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAD 291 (2 credit hours)****Special Problems**

Allows the student to gain intermediate experience in their perspective fields through projects and tasks assigned by the instructor based on applications the student may one day experience as a professional. Sets the foundation for more in-depth projects that will be included in the student's future portfolio. Focuses on various assignments and curriculum determined by the program instructor. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAD 292 (4 credit hours)****Industrial Applications**

Emphasizes the development of a portfolio of mechanical drawings specific to the occupational opportunities in specific geographical locations. Focuses on various assignments and curriculum as determined by the program instructor. Lecture: 4.0 credits (90 contact hours).

**Pre-requisite:** Approval of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



**CAD 293 (1-4 credit hours)****Special Problems**

Allows the student to gain intermediate experience in their perspective fields through projects and tasks assigned by the instructor and based on applications the student may one day experience as a professional. Sets the foundation for more in-depth projects that will be included in the student's future portfolio. Focuses on various assignments and curriculum as determined by the program instructor. Lab: 1.0 - 4.0 credits (30-120 contact hours).

**Pre-requisite:** Approval of Program Coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAD 298 (1-3 credit hours)****Practicum**

Provides supervised work experiences related to the student's educational objectives. Students participating in the Practicum do not receive compensation. Practicum: 1.0-3.0 credits (45-135 contact hours).

**Pre-requisite:** Approval of Program Coordinator.

**Attributes:** Technical

**Components:** PCM: Practicum

**CAD 299 (1-3 credit hours)****Cooperative Education**

Provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Co-op Education program receive compensation for their work. Co-op: 1.0-3.0 credits (45-135 contact hours).

**Pre-requisite:** Approval of Program Coordinator.

**Attributes:** Technical

**Components:** COP: Co-op

**CAD 1001 (0.75 credit hours)****CAD Basics**

Uses a computer graphic workstation in the application of fundamental principles and capabilities of CAD, terminology, and operations. Includes coordinate systems and basic CAD operations. Prerequisite: (DFT 102 or BRX 120 with a grade of C or better) or consent of instructor. Lecture: 0.5 credit (7.5 contact hours). Laboratory: 0.25 credits (7.5 contact hours).

**Components:** LAB: Laboratory, LEC: Lecture

**CAD 1002 (0.75 credit hours)****2-Dimensional Shapes**

Uses a computer graphic workstation in the application of fundamental principles and capabilities of CAD, specifically construction and manipulation of 2-dimensional shapes. Prerequisite: (CAD 1001 with a grade of C or better) or consent of instructor. Lecture: 0.5 credits (7.5 contact hours). Laboratory: 0.25 credits (7.5 contact hours).

**Components:** LAB: Laboratory, LEC: Lecture

**CAD 1003 (0.75 credit hours)****Sections and Orthographic Projections**

Uses a computer graphic workstation in the application of fundamental principles and capabilities of CAD, specifically orthographic projections and drafting of sections. Prerequisite: (CAD 1002 with a grade of C or better) or consent of instructor. Lecture: 0.5 credits (7.5 contact hours). Laboratory: 0.25 credits (7.5 contact hours).

**Components:** LAB: Laboratory, LEC: Lecture

**CAD 1004 (0.75 credit hours)****Dimensioning**

Uses a computer graphic workstation in the application of fundamental principles and capabilities of CAD, specifically proper placement of dimensions. Prerequisite: (CAD 1003 with a grade of C or better) or consent of instructor. Lecture: 0.5 credits (7.5 contact hours). Laboratory: 0.25 credits (7.5 contact hours).

**Components:** LAB: Laboratory, LEC: Lecture

## Computerized Manufacturing & Machining (CMM)

**CMM 110 (3 credit hours)****Fundamentals of Machine Tools - A**

Provides the basic principles needed for a solid foundation in machine tool technology. Covers shop safety, bench work, drill press, power saw, measurement, and mills. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 112 (3 credit hours)****Fundamentals of Machine Tools - B**

Provides the basic principles needed for a solid foundation in machine tool technology. Includes shop safety, bench work, drill press, power saw, measurement, and lathes. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** (CMM 110 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CMM 114 (6 credit hours)****Fundamentals of Machine Tools**

Provides the skills and knowledge that is needed to progress through the machine tool program. Includes safety and bench work. Introduces the basic power equipment and machine tools that are used in the machine trades which include: drill presses, power saws, measurement instruments, mills and lathes. Lecture: 1.0 credits (15 contact hours). Lab: 5.0 credits (150 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 118 (2 credit hours)****Metrology/Control Charts**

Provides the basic principles in using precision measurement instruments and their application to inspection and quality control. Lecture/Lab: 2.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 120 (3 credit hours)****Applied Machining I**

Consists of intermediate level skills using machining machines and surface grinders. Includes the selection of grinding wheels. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).

**Pre-requisite:** ((CMM 110 and 112) or (CMM 114) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**CMM 122 (3 credit hours)****Applied Machining II**

Carries the student to higher levels in the operation of machine tools. Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** (CMM 120 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CMM 124 (6 credit hours)****Applied Machining**

Allows the student to begin performing skills that will combine the use of different types of machine and begin to give them a complete picture of the machine tool career. Lecture/Lab: 6.0 credits (165 contact hours).

**Pre-requisite:** ((CMM 110 and CMM 112) or (CMM 114) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 130 (3 credit hours)****Manual Programming**

Introduces the student to CNC codes and programming, set-up and operation of CNC machine tools. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 132 (3 credit hours)****CAD/CAM/CNC**

Introduces the student to CAD/CAM/CNC systems which includes CAM software. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 134 (6 credit hours)****Manual Programming CAD/CAM/CNC**

Introduces the student to CAD/CAM/CNC systems, CNC format, the Cartesian Coordinate System, CNC codes and programming, set-up and operation of CNC machine tool. Lecture: 2.0 credits (30 contact hours); Laboratory: 4.0 credits (120 contact hours/30:1 ratio).

**Pre-requisite:** ((CMM 110 and CMM 112) or CMM 114) with a grade of C or greater] or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 138 (6 credit hours)****Intro. to Programming & CNC Machines**

Introduces CAD/CAM and CNC equipment. Covers program codes and set up operations used on a variety of machine tools including technologies like waterjet. Lecture/Lab: 6.0 credits (150 contact hours) (30:1 Ratio Lab).

**Pre-requisite:** ((CMM 110 and CMM 112) or (CMM 114) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 150 (2 credit hours)****Shop Theory**

Covers shop theory, processes, and basic concepts of machine tool applications utilized in the tool and die field. Includes areas and machine concepts: safety, measurement, layout work, bench work, saws, drills, drilling machines, mills and lathes. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 151 (3 credit hours)****Machinery's Handbook and Metallurgy**

Introduces the Machinery's Handbook as a reference source for solving manufacturing problems and provides a working knowledge of the principles and concepts contained in the Handbook. Explores processes involved in heat-treating steels to a specific hardness, toughness, wear capability. Covers the identification, classification, application, and processing of Tool Steels. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 152 (3 credit hours)****Jigs, Fixtures and Gaging**

Introduces jigs, fixtures and work holding devices, including separate uses and principles. Applies machining processes to design jigs and fixtures. Uses print knowledge to identify part datums for gaging points. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 153 (3 credit hours)****Mold Theory**

Presents mold-making including thermoplastic and thermosetting materials, compression mold, transfer mold, injection molds and mold components, the heating and cooling of molds and the methods of producing cores and cavities. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 154 (3 credit hours)****Die Theory**

Presents basic die making including die sets, punch presses, blanking dies, piercing dies, screw and dowel holes, punch and punch blocks, die life, bending dies, pilots, die block construction, stock strippers, stock guides, progressive dies, stock strips and secondary operations of notch, trim, and shave. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 210 (3 credit hours)****Industrial Machining I**

Covers the classification of metals, identification of tool steels and their applications. Requires the student to perform advanced milling machine operations that simulate industry standards. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).

**Pre-requisite:** ((CMM 122 or 124) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 212 (3 credit hours)****Industrial Machining II**

Permits the student to receive instruction in any area where advanced work is needed or an area where there is student interest. Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** (CMM 210 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CMM 214 (6 credit hours)****Industrial Machining**

Covers the classification of metals, identification of tool steels and their applications. Requires the student to perform advanced milling machine operations that simulate industry standards. Includes special projects in this course so the student will receive instruction in a specific area. Lecture/Lab: 6.0 credits (165 contact hours).

**Pre-requisite:** ((CMM 122 or CMM 124) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 218 (8 credit hours)****Advanced Machining Techniques for Manufacturing**

Allows for construction of sinker electrodes in the production of die and mold forms. Includes wire electrodischarge machines (edm) machining of die sections, punch retainers, stripper plates, punch forms and use of cylindrical grinder ID and OD and angular grinding on die and mold components. Lecture: 2.0 credits (30 contact hours). Laboratory: 6.0 credits (180 contact hours).

**Pre-requisite:** CMM 216 with a grade of C or greater.

**Components:** LAB: Laboratory, LEC: Lecture

**CMM 220 (4 credit hours)****Advanced Industrial Machining I**

Allows for construction of electrodes and the production of parts by the use of an Electrical Discharge machine. (National Standards require EDM and cylindrical grinder training. Colleges lacking this equipment can only present theory only. KCTCS is presently trying to acquire EDM and cylindrical grinders.) Laboratory: 4 credits (120 contact hours/30:1 ratio). **Pre-requisite:** ((CMM 130 and CMM 132) or (CMM 134) and (CMM 212 or CMM 214) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CMM 222 (2 credit hours)****Advanced Industrial Machining II**

Advances students to a higher level of industrial standards by exposing them to additional tasks using a cylindrical grinder. \*\*National Standards require EDM and cylindrical grinder training. Those programs lacking this equipment can only present theory. KCTCS is presently trying to acquire EDM and cylindrical. Lab: 2.0 credits (60 contact hours/30:1 ratio).

**Pre-requisite:** (CMM 212 or CMM 214 with a Grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CMM 224 (6 credit hours)****Advanced Industrial Machining**

Designed to allow for the construction of electrodes and the production of parts by the use of an Electric Discharge Machine (EDM), cylindrical grinder, and other type of grinders. \*\*National Standards require EDM and cylindrical grinder training. Colleges lacking this equipment can only present theory. KCTCS is presently trying to acquire EDM and cylindrical grinders. Laboratory: 6.0 credits (180 contact hours or 270 Clinical Contact).

**Pre-requisite:** (CMM 134 and (CMM 212 or CMM 214) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CMM 230 (6 credit hours)****Conversational Programming**

Introduces the student to conversational programming of CNC machine tools. Lecture/Lab: 6.0 credits (150 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CMM 234 (6 credit hours)****CNC Machines & Coding Practices**

Introduces the student to conversational programming of CNC machine tools to include conversational setup and run options found on a CNC water jet machine. Lecture/Lab: 6.0 credits (150 contact hours). (30:1 Ratio Lab).

**Pre-requisite:** ((CMM 130 and CMM 132) or (CMM 134 or CMM 138) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 240 (6 credit hours)****Introduction to 3-D Programming**

Introduces 3-D Programming using CAM systems to effect engineering changes that enhance productivity. Uses CAM system to create and produce complex 3-D parts. Lecture: 2.0 credits (30 contact hours). Lab: 4.0 credits (120 contact hours or 180 clinical contact).

**Pre-requisite:** ((CMM 130 and CMM 132) or (CMM 134 or CMM 138) with a grade of C or greater) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CMM 244 (6 credit hours)****Advance Programming/Setup Practices**

Uses CAM systems to effect engineering changes that enhance productivity to create and produce complex shapes on the CNC mill, lathe, EDM and water jet machines. Lecture/Lab: 6.0 credits (150 contact hours).

**Pre-requisite:** ((CMM 2301 and CMM 2302) or (CMM 230) with a grade of C or greater) or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CMM 298 (1 credit hours)****Practicum**

Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Practicum do not receive compensation.) Practicum: 1.0 credit (75 contact hours).

**Pre-requisite:** Permission of the Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**CMM 299 (1 credit hours)****Cooperative Education Program**

Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the coop do receive compensation.) Co-Op: 1.0 credit (75 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**CMM 2301 (3 credit hours)****Introduction to Conversational Programming**

Introduces students to conversational programming guidelines which will include program preparation, conversational input, and minor editing. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Consent of Instructor.

**Components:** LEC: Lecture

**CMM 2302 (3 credit hours)****Conversational Editing and Subroutines**

Introduces students to performing editing routines, to subroutines, and to programs that contain loops. Requires students to interpret error messages from the control. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** CMM 2301 or Consent of Instructor.

**Components:** LEC: Lecture

**CMM 2401 (3 credit hours)****Introduction to 3D Code Sequencing and Tool Path Production**

Introduces students to creation of 3-D models and allows use of those models to be used in creation of tool paths for CNC machine tools. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** ((CMM 130 and CMM 132) or (CMM 134) with a grade of C or greater) or Consent of Instructor.

**Components:** LEC: Lecture

**CMM 2402 (3 credit hours)****Advanced 3D Code Sequencing and Macro Systems**

Introduces 3-D Programming using CAM systems to effect engineering changes that enhance productivity. Uses the CAM system to create and produce complex 3-D parts. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** ((CMM 130 and CMM 132) or (CMM 134 or CMM 138) and (CMM 2401) with a Grade of C or greater) or Consent of Instructor.

**Components:** LEC: Lecture

## Construction/Carpentry (CAR)

**CAR 126 (3 credit hours)****Intro to Construction**

Provides a discussion of the different employment opportunities of carpentry related careers within the construction industry including different construction systems and methods as well as basic management of a construction project. Emphasizes the different building materials and the correct use of hand and power tools. Includes shop and job-site safety. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 127 (1 credit hours)****Intro to Construction - Lab**

Permits students to research different employment opportunities of carpentry-related careers. Introduces the student to different construction systems and methods as well as practice basic management methods of a construction project. Permits student to become familiar with common building materials and the correct use of hand and power tools. Implements shop and job-site safety standards. Laboratory: 1 credit (30 contact hours).

**Co-requisite:** CAR 126.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAR 140 (3 credit hours)****Surveying & Foundations**

Enables the student to become familiar with construction surveying methods, site layout procedures and materials used in the construction of foundation systems as well as discussion on the use of the builders level, transit and laser levels. Covers the characteristics of concrete, excavation procedures, forming methods and material estimating. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 141 (2 credit hours)****Surveying & Foundations-Lab**

Familiarizes the student with construction surveying methods, site layout procedures and materials used in the construction of foundation systems as well as the application of the builders level, transit and laser levels. Covers the application of concrete procedures, excavation procedures, forming methods and material estimating. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** CAR 140.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAR 150 (3 credit hours)****Concrete Formwork**

Introduces the carpentry student to heavy and commercial concrete form construction methods. Covers information about properties of concrete as a building material, rigging, concrete wall form systems, above grade floor systems, vertical piers and column form systems, on grade curb forms, horizontal beam forms, fire proofing encasement forms, stair forms, bridge and deck forms. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 151 (2 credit hours)****Concrete Formwork-Lab**

Introduces the carpentry student to heavy and commercial concrete form construction methods. Provides for the application of information about the properties of concrete, rigging, concrete wall form systems, above grade floor systems, vertical piers and column form systems, on grade curb forms, horizontal beam forms, fire proofing encasement forms, bridge and deck forms. Familiarizes student with OSHA construction standards on Concrete and Shoring, and Excavations. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** CAR 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAR 190 (3 credit hours)****Light Frame Construction I**

Emphasizes methods of floor, wall and stair framing, layout and construction. Provides discussion of industry safety standards and building codes. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 191 (2 credit hours)****Light Frame Const. I-Lab**

Permits the student to practice floor, wall, and stair framing layout and construction techniques including the implementation of building codes and industry safety standards during lab or job-site practice. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** CAR 190.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAR 196 (3 credit hours)****Light Frame Construction II**

Covers basic roof design and combination roof designs used in the construction industry including the layout and installation practices that will be used to fabricate and install ceiling and roof framing systems. Provides discussion of job-site safety practice, scaffold and ladder safety that deals with roof construction, and building code requirements for roof construction and material estimating. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 197 (2 credit hours)****Light Frame Const. II-Lab**

Covers basic roof design and construction methods used in the construction industry including layout, cut and install ceiling joists, rafters, and roof decking materials. Includes layout and installation practices for roof truss systems, job-site safety practice, scaffold and ladder safety that deals with roof construction and building code requirements for roof construction and material estimating. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** CAR 196.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAR 198 (1-6 credit hours)****Special Topics in Carpentry**

Includes various Construction Carpentry Technology topics, issues and trends. Topics may vary semester to semester at the discretion of the instructor; course may be repeated with different topics to a maximum of six credit hours. Lecture: 1-6 credits (15-90 contact hours). Laboratory: 1-6 credits (30-180 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 200 (3 credit hours)****Light Frame Construction III**

Presents the concepts of interior and exterior finish materials and methods of installation. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**CAR 201 (2 credit hours)****Light Frame Const. III-Lab**

Provides an opportunity for students to perform basic applications of the concepts of interior and exterior finish methods for light frame construction. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** CAR 200.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**CAR 240 (3 credit hours)****Light Frame Construction IV**

Covers the concepts that support the planning, construction and installation methods for kitchen and bath cabinetry and countertops. Provides discussion of special finish trim techniques including finish stair construction and specialty millwork. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 241 (2 credit hours)****Light Frame Const. IV-Lab**

Allows the student to practice the concepts that support the planning, construction and installation methods for kitchen and bath cabinetry and countertops including special finish trim techniques of finish stair construction and specialty millwork. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** CAR 240.

**Attributes:** Technical

**Components:** LAB: Laboratory

**CAR 270 (3 credit hours)****Green Building**

Integrates principles of green building technologies and methods of sustainable construction. Emphasizes green materials used in the construction of buildings along with alternative and/or renewable energy systems. Introduces Leadership in Energy and Environmental Design (LEED) and the National Green Building Standard (NGBS) rating systems for the certification process of green buildings. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CAR 298 (2 credit hours)****Practicum in Construction**

Refines the techniques and skills taught in the previous carpentry courses. Provides supervised on-the-job experience related to the students educational and career training objectives. Practicum can be performed on the college campus with work assignments supervised by your program coordinator. Consists of a minimum of 150 contact hours. Two credit hours will be granted after completion. Students participating in the Practicum do not receive compensation as in the co-op program. Practicum: 2 credits (150 contact hours).

**Pre-requisite:** ISX 100 and/or Permission from program Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**CAR 299 (2 credit hours)****Co-op in Construction**

Refines the techniques and skills taught in the previous carpentry courses. Provides a supervised on-the-job experience related to the students educational and career training objectives. The program will consist of a minimum of 150 contact hours. 2.0 credit hours will be granted after completion. Co-op: 2 credits (150 contact hours).

**Pre-requisite:** ISX 100 and/or permission from program Instructor.

**Attributes:** Technical

**Components:** COP: Co-op



**CAR 2001 (1 credit hours)****Light Frame Construction III - Interior**

Presents the concepts of interior finish materials and methods of installation. Lecture: 1.0 credits (15 contact hours).

**Components:** LEC: Lecture

**CAR 2002 (1 credit hours)****Light Frame Construction III - Exterior**

Presents the concepts of exterior finish materials and methods of installation. Lecture: 1.0 credits (15 contact hours).

**Components:** LEC: Lecture

**CAR 2011 (1 credit hours)****Light Frame Construction III Lab Interior**

Provides an opportunity for students to perform basic applications of the concepts of interior finish methods for light frame construction. Co-requisite: CAR 2001. Laboratory: 1.0 credits (30 contact hours).

**Co-requisite:** CAR 2001, Pre-requisite OR CAR 2001.

**Components:** LAB: Laboratory

**CAR 2012 (1 credit hours)****Light Frame Construction III Lab Exterior**

Provides an opportunity for students to perform basic applications of the concepts of exterior finish methods for light frame construction. Co-requisite: CAR 2002. Laboratory: 1.0 credits (30 contact hours).

**Co-requisite:** CAR 2002, Pre-requisite OR CAR 2002.

**Components:** LAB: Laboratory

## Cooperative Education (COE)

**COE 199 (1-8 credit hours)****Cooperative Education: (Topic)**

Cooperative Education is a planned and evaluated work experience related to the student's educational objective for which the student receives both financial remuneration and academic credit. One credit hour is awarded for completion of additional required activities. While the maximum amount of credit granted for cooperative education experience varies by curriculum, the amount may never exceed eight hours in an Associate in Applied Science Degree, diploma or certificate program. This course is available only to students enrolled in Associate in Applied Science Degree, diploma and certificate program that list Cooperative Education as an approved course. Co-op: 1-8 hours. (80-640 contact hours).

**Pre-requisite:** Completion of at least 12 credit hours in the Associate in Applied Science Degree, diploma or certificate program of study and/or marketable skills in the area in which the student is enrolled, and minimum cumulative grade point average (GPA) of 2.0.

**Attributes:** Technical

**Components:** COP: Co-op

## Cooperative Education (COED)

**COED 198 (1-9 credit hours)****Practicum**

Provides a planned and evaluated work experience related to the student's educational objective for which the student receives academic credit but no financial remuneration. Practicum: 1-9 credits (45-405 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

## Cosmetology (COS)

**COS 107 (14 credit hours)****Student Teaching I**

Introduces teaching methods used in training cosmetology, esthetics, and nail technology students. Demonstrates teaching methods of theory, media use, and testing methods. Develops and applies the methods used to teach the practical application of skills. Demonstrates the Kentucky Board of Cosmetology rules and regulations. Lecture: 3 credits (45 contact hours). Laboratory: 11 credits (330 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 108 (6 credit hours)****Cosmetology I Theory**

Identifies attitudes and behaviors for successful Cosmetology practice. Describes Kentucky Statutes and regulations, safety, bacteriology, sanitation, infection control, basic first aid, structure of the hair and nails and disorders of the scalp and nails as related to hairstyling, shaping, manicures and pedicures. Lecture: 6 credit hours (90 contact hours).

**Pre-requisite:** High school diploma or equivalent.

**Attributes:** Technical

**Components:** LEC: Lecture

**COS 109 (6 credit hours)****Cosmetology I Practical Application**

Demonstrates basic hair, nail and skin care services utilizing safety precautions, sanitation and infection control procedures. Laboratory: 6 credit hours (270 contact hours).

**Pre-requisite:** High school diploma or equivalent.

**Co-requisite:** COS 108.

**Attributes:** Technical

**Components:** LAB: Laboratory

**COS 114 (14 credit hours)****Cosmetology I, 6-1**

Illustrates ways to cultivate proper attitude and behavior patterns needed to create a successful cosmetologist. Kentucky Statutes and regulations, safety, bacteriology, sanitation, infection control, first aid treatment, structure and disorders of the nail are studied. An introduction to the basic fundamentals of hair, skin and nail care, hair styling and shaping, manicures and pedicures, chemical and thermal services, and wigs. The student in developing manipulative skills and practicing procedures utilizes mannequins and classmates. After 300 hours student begin to apply procedures on clients under the direct supervision of the instructor. Lecture: 14 credits (450 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**COS 116 (14 credit hours)****Cosmetology II, 6-2**

A study of basic chemistry with emphasis placed on the physical and chemical properties of cosmetic materials. Electricity and light therapy are discussed and an in-depth study of anatomical structures affected by cosmetological services including disorders of the skin, scalp, hair, and nails. The instructor gives the students progressively more difficult assignments with close supervision. Lecture: 14 credits (450 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture



**COS 117 (14 credit hours)****Student Teaching II**

Expands teaching methods used in training cosmetology, esthetics, and nail technology students. Demonstrates advanced teaching methods of theory, media use, and testing methods. Develops and applies the methods used to teach the practical application of skills. Provides preparatory work to prepare the apprentice instructor for the Kentucky Board of Hairdressers and Cosmetologists instructor examination. Lecture: 3 credits (45 contact hours). Laboratory: 11 credits (330 contact hours).

**Pre-requisite:** COS 107.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 118 (5 credit hours)****Cosmetology II Theory**

Examines chemistry with emphasis placed on the physical and chemical properties of cosmetic materials, chemical application techniques to hair (natural and artificial). The study of anatomical structures affected by cosmetology services including disorders of the skin, scalp, hair, and nails. Lecture: 5 credit hours (75 contact hours).

**Pre-requisite:** Successful completion of COS 114 or COS 108 & COS 109.

**Attributes:** Technical

**Components:** LEC: Lecture

**COS 119 (7 credit hours)****Cosmetology II Practical Application**

Apply the chemical application techniques to skin, hair (natural and artificial) and nails. Laboratory: 7 credit hours (315 contact hours).

**Pre-requisite:** Successful completion COS 114 or COS 108 & COS 109.

**Co-requisite:** COS 118.

**Attributes:** Technical

**Components:** LAB: Laboratory

**COS 135 (1-8 credit hours)****Individual Requirements I**

Provides additional lecture/laboratory time to meet licensure requirements of 1800 clock hours. Lecture: 1.0 - 8.0 credit hours (15 -120 contact hours). Laboratory: 1.0 - 8.0 credit hours (30 - 240 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 136 (13 credit hours)****Esthetics I**

Covers the history of esthetics, today's career opportunities, and professional image. Includes Kentucky Statutes and Regulations, analysis of skin types for facial products, massage techniques, and hair removal. Provides guidelines that prevent the contamination of products, implements, and equipment for the prevention of disease. Includes the study of structure, composition, and function of the skin. Lecture: 7 credits (105 contact hours). Laboratory: 6 credits (270 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 137 (17 credit hours)****Salon Assistant**

Provides knowledge and the techniques of all blow-drying services include any of the following services performed on an individual's hair: Arranging, cleaning, curling dressing, blow drying and performing any other similar procedures. Lecture: 12 hours (180 contact hours). Laboratory: 5 credit hours (300 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 138 (8 credit hours)****Salon Assistant I**

Provides knowledge and the techniques of all blow-drying services include any of the following services performed on an individual's hair: Arranging, cleaning, curling dressing, blow drying and performing any other similar procedures. Lecture: 6 credits (90 contact hours). Laboratory: 2 credits (120 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 139 (9 credit hours)****Salon Assistant II**

Provides knowledge and the techniques of all blow-drying services include any of the following services performed on an individual's hair: Arranging, cleaning, curling dressing, blow drying and performing any other similar procedures. Lecture: 6 credits (90 contact hours). Laboratory: 3 credits (180 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 146 (13 credit hours)****Esthetics II**

Covers organic/inorganic chemistry and cosmetic ingredients. Focuses on facial enhancements through the use of make-up artistry and application including hair removal procedures and applications. Includes the study of skin conditions, disorders and diseases, and those treatable by the esthetician. Explains treatments related to skin and skin disorders. Covers procedures for business and management, the practice of esthetic setup, disinfection, application techniques, advanced esthetics which include peels, deep pore cleansing, clinical skin care, aroma therapy, and spa/body treatments. Includes Kentucky Board of Cosmetology statutes and regulations. Provides for the study of the functions and benefits of electrotherapy including pre- and post-operative care for physician treatments and the application of various cosmeceutical products. Lecture: 7 credits (105 contact hours). Laboratory: 6 credits (270 contact hours).

**Pre-requisite:** COS 136 or Instructor permission.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 147 (16 credit hours)****Nail Technology**

Provides knowledge of the art and science of nail technology. Applying the rules and regulations of the Kentucky Board of Cosmetology as it should be used in the salon. Introduces bacteriology and infection control through the practice of disinfection procedures. Teaches the study of the cells, and structure of the hand and arm. Recognizes the structure of the nail and their diseases and disorders. Demonstrates the study of beauty salon management including the practice of interacting with clients, co-workers, and supervisors. (Students practice on classmates and progress to work on clients.) Lecture: 8 credits (120 contact hours). Laboratory: 8 credits (360 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 170 (17 credit hours)****Accelerated Student Teaching**

Introduces and expands teaching methods used in training cosmetology, esthetics, and nail technology students. Demonstrates teaching methods of theory, media use, and testing methods. Develops and applies the methods used to teach the practical application of skills. Demonstrates the Kentucky Board of Cosmetology rules and regulations. Provides preparatory work to prepare the apprentice instructor for the Kentucky Board of Cosmetology instructor's examination. Lecture: 8 credits (120 contact hours). Laboratory: 4 credits (180 contact hours). Practicum: 5 credits (450 contact hours).

**Pre-requisite:** Cosmetologist's license, one year work experience, and Apprentice Cosmetologists' Instructor's License.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture, PCM: Practicum

**COS 216 (20 credit hours)****Teaching I**

Introduces teaching methods used in training cosmetology, esthetics, and nail technology students. Demonstrates teaching methods of theory, media use, and testing methods. Develops and applies the methods used to teach the practical application of skills. Lecture: 6.0 credits (90 contact hours). Lab: 14.0 credits (420 contact hours).

**Pre-requisite:** Cosmetologist's License, one year work experience, and Apprentice Cosmetologists Instructor's License.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 218 (14 credit hours)****Cosmetology III, 6-3**

Provides knowledge of the structure and function of the human body, including the interaction of all the body systems in maintaining homeostasis. All phases of beauty salon management are studied, including interacting with clients, co-workers and supervisors. Laboratory experience is advanced with performance expectations set at a higher level. Lecture/Laboratory: 14 credits (450 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 222 (6 credit hours)****Cosmetology Review**

Designed as a total review of the Cosmetology curriculum. A comprehensive written and practical exam is given in preparation for the State Board Licensure exam. Students implement their own judgment of procedures and solutions to be used on clients with supervision. Lecture: 4 credit hours (60 contact hours) Lab: 2 credit hours (90 contact hours)

**Pre-requisite:** COS 114, 116, 218 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 228 (5 credit hours)****Cosmetology III Theory**

Provides knowledge of the structure and function of the human body, including all the body systems. A concept of artificial hair, hair enhancements, braiding and extensions, electricity and light therapy and business skills are studied. Lecture: 5 credit hours (75 contact hours).

**Pre-requisite:** Successful completion of COS 116 or COS 118 & COS 119.

**Attributes:** Technical

**Components:** LEC: Lecture

**COS 229 (7 credit hours)****Cosmetology III Practical Application**

Illustrate laboratory experiences with advanced performance expectations, including interacting with clients, co-workers and supervisors. The application of general anatomy is applied in laboratory settings and the techniques of all areas relating to salon business skills. Laboratory: 7 contact hours (315 contact hours).

**Pre-requisite:** Successful completion of COS 116 or COS 118 & COS 119.

**Co-requisite:** COS 228.

**Attributes:** Technical

**Components:** LAB: Laboratory

**COS 235 (1-8 credit hours)****Individual Requirements II**

Provides additional lecture/laboratory time to meet licensure requirements of 1800 clock hours. Lecture/Lab: 1.0 - 8.0 credit hours (15 - 120 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**COS 238 (6 credit hours)****Cosmetology IV Theory**

Recall the comprehensive written exam in preparation for the Kentucky Board Licensure exam. Lecture: 6 credit hours (90 contact hours).

**Pre-requisite:** Successful completion of COS 218 or COS 228 & COS 229.

**Attributes:** Technical

**Components:** LEC: Lecture

**COS 239 (6 credit hours)****Cosmetology IV Practical Application**

Demonstrate the comprehensive practical exam in preparation for Kentucky Board Licensure exam. Laboratory: 6 credit hour (270 contact hours).

**Pre-requisite:** Successful completion of COS 218 or COS 228 & COS 229.

**Co-requisite:** COS 238.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Criminal Justice (CRJ)

**CRJ 100 (3 credit hours)****Introduction to Criminal Justice**

Provides an introduction to the philosophical and historical background of agencies of the criminal justice systems, processes, purposes and functions. Includes an evaluation of the criminal justice system today, including trends and career orientation. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 102 (3 credit hours)****Introduction to Corrections**

Provides an introduction to the development of correctional systems, and the processes, procedures, and issues of current correctional systems, both juvenile and adult. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 107 (1 credit hours)****Introduction to Firearms**

Provides a working knowledge of the use, care, and safety of firearms. The course is of nomenclature design and it will be at the discretion of each individual college whether live ammunition will be utilized by the students and faculty to demonstrate the firing of weapons and marksmanship practice. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 108 (4 credit hours)****Advanced Firearms and Less Than Lethal Weapons**

Provides an advanced working knowledge of the use, care, safety, and legal application of firearms and less than lethal weapons. Includes live fire with the use of pistol, shotgun/rifle, and less than lethal weapons. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (69 contact hours).

**Pre-requisite:** CRJ 107 and (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CRJ 110 (3 credit hours)****Principles of Asset Protection**

Provides an introductory understanding of private security procedures. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 201 (3 credit hours)****Introduction to Criminalistics**

Provides a basic knowledge of crime scene protection, collection, preservation, and identification of evidence, including proper search, dusting latent prints, casting fingerprint classification, and use of crime laboratory in crime detection and prosecution. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 202 (3 credit hours)****Issues and Ethics in Criminal Justice**

Provides an understanding of the issues and ethical dilemmas confronting practitioners within the criminal justice system. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 203 (3 credit hours)****Community Corrections: Probations & Parole**

Provides an in-depth study of the history and current processes and procedures of probation, parole, and intermediate sanctions that makes up community corrections. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 204 (3 credit hours)****Criminal Investigations**

Provides the fundamentals of crime scene investigations, which includes searching and recording of the scene, collection and preservation of physical evidence, interviews and interrogation of victims, witnesses, and suspects, report writing and case preparation. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 208 (3 credit hours)****Delinquency and the Juvenile Justice System**

Provides an introduction of the origins and theories associated with juvenile delinquency, and a comprehensive analysis of environmental issues that influence delinquency, plus a thorough overview of the juvenile justice system processes. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 210 (3 credit hours)****Physical Security Technology & Systems**

Introduces facility security with the use of environmental design and integrated electronic technology (cameras, monitors, and alarms). Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 211 (3 credit hours)****Liability & Legal Issues**

Provides an overview of legal aspects of security, which includes but is not limited to civil and criminal law, liability of asset protection, use of force, false imprisonment, negligent security, and invasion of privacy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90) AND (CRJ 100 or Consent of Instructor).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 215 (3 credit hours)****Introduction to Law Enforcement**

Provides an introduction to the study of law enforcement. Introduces the historical developments of law enforcement, police operations and programs. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 216 (3 credit hours)****Criminal Law**

Provides an overview of the definitions and functional components of criminal law in the field of criminal justice. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 217 (3 credit hours)****Criminal Procedures**

Provides an overview of the different criminal procedural laws by examining the specific Amendments that outline the guidelines of the administration of substantive laws. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 218 (3 credit hours)****Police Supervision**

Provides an overview of the administrative, supervisory, and leadership roles that are required within a law enforcement agency. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90) AND CRJ 100 or CRJ 215 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 219 (4 credit hours)****Police Recruit Defensive Tactics**

Provides the proper methods of police defensive tactics, emphasizes necessary skills, and establishes an understanding of use of force policies and legal implications. Lecture: 1.0 credit (15 contact hours). Lab: 3.0 credits (91.5 contact hours).

**Pre-requisite:** CRJ 215 and (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CRJ 220 (3 credit hours)****Introduction to Computer Forensics for Criminal Justice**

Introduces the study of cybercrime with an emphasis on planning, detection, and response with the goals of counteracting and overcoming hacker attacks and computer-related offenses. Malicious activities will be logged and forensic tools will be used to gather court-admissible evidence. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Completion of an approved Computer Literacy Course with a grade of C or greater, or computer literacy demonstrated by competency exam; AND (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 222 (3 credit hours)****Prison and Jail Administration**

Introduces the correctional procedures and administration of jails and prisons by focusing on historical and current perspectives of penology, administrative responsibilities of correctional leaders, and correctional staff responsibilities. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 224 (4 credit hours)****Basic Traffic Collision Investigation**

Introduces basic vehicle collision investigation, from a law enforcement perspective, and entails evidence and investigation techniques and mathematical calculations. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** CRJ 204 and MAT 110 and (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CRJ 225 (4 credit hours)****Driving and Traffic Enforcement for Law Enforcement**

Provides an understanding of vehicle offenses, tactical police driving, and traffic stops, in a scenario-based environment that demonstrates applied skills. Lecture: 3.0 credits (45 contacts). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** CRJ 215 and (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CRJ 228 (3 credit hours)****Unmanned CRJ Technology Applications**

Examine the use of advanced technologies used in the field of criminal justice. Discuss constitutional considerations and ethical issues related to the use of advanced technologies. Explore use of new technologies in the areas of crime scene reconstruction, use of force, criminal investigation, tactical responses, surveillance, search and rescue, and security. Discuss the use of drones, robotics, and video equipment as key technologies that are changing criminal justice practice. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**CRJ 230 (3 credit hours)****Criminal Justice Courtroom Procedures**

Covers research, study, and discussion of current and emerging topics, issues, and trends in courtroom procedures. Includes basic courtroom procedures and the roles of the key personnel within the courtroom setting. Includes practical preparation procedures for witness presentation of testimony. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 231 (3 credit hours)****Legal Aspects of Corrections**

Covers research, study, and discussion of current and emerging topics, issues, and trends in corrections. Introduces legal aspects of corrections. Includes a historical perspective, as well as applicable case law, in the areas of corrections operations, practices, and procedures. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 235 (3 credit hours)****Serial Killers**

Examine serial, mass, and spree killing. Explore the process of investigating serial killing. Discuss the elements of serial killing and the individual characteristics of serial killers. Examine case studies to illustrate the components of serial killing characteristics and the psychological and sociological foundations of serial killing. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 240 (3 credit hours)****Introduction to Corporate & Industrial Security**

Includes research, study, and discussion of current and emerging topics, issues, and trends in corporate and industrial security. Covers basic corporate and industrial security procedures and the roles of the key personnel within the private security arena. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 245 (3 credit hours)****Introduction to Business and Industrial Fraud**

Includes research, study, and discussion of current and emerging topics, issues and trends in business and industrial fraud. Covers basic concepts of occupational fraud and abuse and the roles of the key personnel within the criminal justice system. Includes practical procedures for defining, identifying, and investigating business and industrial fraud. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 255 (3 credit hours)****Correctional Intervention Strategies**

Examine current correctional intervention strategies. Discuss the development of evidence-based programs based on decades of correctional research. Explore mental health disorders, substance abuse, and personality disorders, and also the best strategies for working with individuals with these issues. Discuss the principles of effective intervention, as well as foundational theoretical ideas in the context of creating successful correctional programming. Explore the elements of classification and treatment modalities as they relate to risk, need, and responsivity. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 277 (3 credit hours)****Introduction to Criminology**

Provides an introduction to the understanding of criminal behavior by focusing on crime trends and patterns, the amount of crime, and the theories of crime. Theories of crime will include the biological, psychological, sociological, and integrated explanations of behavior. Theories of crime will be utilized to address the procedures and administration of criminal justice in society. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** If yes, list: (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 278 (3 credit hours)****Victimology**

Examine characteristics of crime victims, different perspectives of victimology, and theories of victimization. Discuss the historical development of victimization and victims rights movement and also the societal impacts of victim concern on social policy and practice in the criminal justice system. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 279 (3 credit hours)****Terrorism and Political Violence**

Provides an introduction to the study of terrorism and terrorist organizations. Introduces the student to the diverse definitions of terrorism and the social and political consequences of varying definitions, behavioral aspects of terrorist and the various justifications for terrorist activities. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 280 (3 credit hours)****Drugs, Crime, and Society**

Examine drug use, addiction, treatment, and trafficking. Explore the connection between drug use and other types of crime. Review drug control policies, including the impact of the media and politics. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**CRJ 290 (3 credit hours)****Internship in Criminal Justice**

Allows the criminal justice student the opportunity to broaden their educational experience through observation and work assignments at a recognized criminal justice agency. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90) AND Sophomore Standing and completion of at least 12 semester hours of Criminal Justice work.

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 295 (1 credit hours)****Criminal Justice Capstone**

Serves as the capstone course for the Criminal Justice degree program. Integrates prior learning outcomes into a single integrated learning experience. Includes preparation for and completion of the post exit exam that all program graduates must complete. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** (CRJ 100 and CRJ 202 and CRJ 204 and CRJ 216 and CRJ 217) AND/OR consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 296 (3 credit hours)****Criminal Psychology**

Provides a basic understanding of the psychological theories explaining criminal behavior. Includes topics regarding the effects of the brain's structural and functional processes on behavior, evidence based psychological techniques for treating criminal behavior, behavioral profiling, basic overview of common mental health problems, ways of recognizing mental health issues when dealing with offenders, and proven psychological techniques for calming problem situations thereby creating a safer and more efficient solution. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CRJ 100, PSY 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**CRJ 299 (1-3 credit hours)****Selected Topics in Criminal Justice**

Introduces specialized topics in the field of criminal justice to meet current trends and investigations of contemporary topics in the discipline. The topics of the course and the number of credit hours determined are at the discretion of the instructor and college providing the course. This course may be repeated to a maximum of 6 credit hours. Lecture: 1.0 - 3.0 credits (15 - 45 contact hours).

**Pre-requisite:** (Current placement scores for RDG 30 or higher or completion of RDG 20) and (Current placement scores for ENC 91 or higher or completion of ENC 90).

**Attributes:** Technical

**Components:** LEC: Lecture

## Criminal Justice (JUS)

**JUS 101U (3 credit hours)****Introduction to Criminal Justice**

This course provides an overview of the criminal justice system; organization and operation of police, courts, and corrections; race, ethnicity, gender, and criminal justice decision-making, current trends and future prospects. Lecture: 3 credit hours (45 contact hours).

**Attributes:** SB - Social Behavior Science, University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

**JUS 231U (3 credit hours)****Race, Gender, and Crime**

Political formulation of race and gender; race and gender issues related to criminality, victimization, prosecution; adjudication, sanctions, and employment within the legal system; antecedents of contemporary practice; prospects for change. Lecture: 3 credit hours (45 contact hours).

**Attributes:** AH - Arts and Humanities, University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

## Culinary Arts (CUL)

**CUL 100 (2 credit hours)****Introduction to Culinary Arts**

Provides an introduction to several aspects of the food industry. Includes an overview of the history of the profession and current career opportunities and trends. Introduces proper terminology for various types of equipment and cooking methods. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 105 (2 credit hours)****Applied Introduction to Culinary Arts**

Provides an applied introduction to several aspects of the food industry. Includes an overview of the history of the profession and current career opportunities and trends. Introduces proper terminology for various types of equipment and cooking methods in a laboratory setting. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 125 (2 credit hours)****Sanitation and Safety**

Develops an understanding of the basic principles of sanitation and safety and to be able to apply them in the food service operations. Reinforces personal hygiene habits and food handling practices that protect the health of the consumer. Lecture 2 credits (30 contact hours)

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 211 (4 credit hours)****Basic Food Production**

This course provides a study of the basic principles of food selection, storage, and preparation, identification and classification of fruits and vegetables; preparation of stocks, soups and sauces; basic principles of cooking; baking; kitchen operations; and a study of breakfast food. Lecture/Lab: 4 credits (90 contact hours).

**Pre- or co-requisite:** CUL 100 and CUL 125 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 215 (4 credit hours)****Basic Baking**

Applies fundamentals of baking science to preparation of a variety of products and to learn use and care of equipment in bake shop and/or baking area. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre- or co-requisite:** CUL 100 and CUL 125 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 220 (4 credit hours)****Advanced Baking & Pastry Arts**

Applies fundamentals of baking science to the preparation of a variety of baked products including choux paste, frozen desserts, and creams, custards, and related sauces. Emphasis will be placed on nutritional aspects of baked products and finishing techniques. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** CUL 215.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 225 (4 credit hours)****Professional Confection and Pastry Arts**

Finishing techniques for confections and pastries, creating decorative centerpieces, sugar artistry, and cake decorating. Fundamentals of baking science along with advanced finishing techniques. Lecture: 2 credits (30 contact hours); Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** CUL 215.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 230 (3 credit hours)****Basic Nutrition**

Identifies the characteristics, functions, and food sources of the major nutrients and how to maximize nutrient retention in food preparation and storage. Applies the principles of nutrient needs throughout the life cycle through menu planning and preparation. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 235 (4 credit hours)****Farm to Table**

Introduces local, seasonal, and sustainable cooking emphasized through the management of fruit, grain, and vegetable production while applying various cooking techniques. Utilize fresh ingredients in the preparation of appetizers, salads, entrees, and desserts. Incorporates canning and preserving methods for when fresh ingredients are out of season.

**Pre-requisite:** CUL 100, CUL 125, CUL 211, CUL 215, OR Instructor Approval Lecture: 2 credit hours (30 contact hours) Lab: 2 credit hours (60 contact hours)

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 240 (4 credit hours)****Meats, Seafood, & Poultry**

Identifies various cooking techniques for and the preparation of meats, seafood, poultry, and meat analogs. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** CUL 100 and CUL 125.

**Pre- or co-requisite:** CUL 211 or consent of the instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 250 (4 credit hours)****Garde Manger**

This course includes the production of hot and cold sandwiches, hors d'oeuvre, canapes and salads. Garnishing techniques along with cold food production are discussed. Decorative skills as related to buffets and exhibits are explored. Lecture/Lab: 4 credits (90 contact hours).

**Pre-requisite:** CUL 211 AND CUL 215 OR Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 260 (4 credit hours)****International & Classical Cuisine**

Focuses on the study and preparation of international and classical cuisine. Lecture: 2 credits (30 contact hours) Lab: 2 credits (60 contact hours).

**Pre-requisite:** CUL 100 and CUL 125.

**Co-requisite:** CUL 211, CUL 215 and CUL 240 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 270 (3 credit hours)****Human Relations Management**

Provides information necessary for the transition from student to a supervisory role in the Food and Beverage industry. Identify leadership styles and skill development in human relations and personnel management. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 280 (3 credit hours)****Cost and Control**

Provides students with the opportunity to perform business and math skills using mathematical functions related to food service operations in the areas of cost, control, purchasing and receiving. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** A mathematics placement score above the score range for MAT 65 or successful completion of the prescribed developmental course(s) or consent of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 285 (3 credit hours)****Front of the House**

Focuses on the operations in front of the house management including service techniques and dining room service, beverage service (non-alcoholic and alcoholic beverages), POS systems, and menu planning. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 290 (4 credit hours)****Front of the House-Catering**

Focuses on the operations in front of the house management including service techniques and dining room service, beverage service (non-alcoholic and alcoholic beverages), POS systems, and menu planning. Lecture/Laboratory: 4.0 credits (90 contact hours).

**Pre-requisite:** (CUL 211, CUL 215, and CUL 240) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 295 (3 credit hours)****Doing Business as a Personal Chef**

A general overview of the business aspects of starting and operating a personal chef service. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** All Technical Core Courses as outlined in the current Culinary Arts Curriculum.

**Attributes:** Technical

**Components:** LEC: Lecture

**CUL 297 (1-6 credit hours)****Selected Topics in Culinary Arts**

Various culinary arts topics, issues, and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructors; courses may be repeated with different topics to a maximum of six credits. Lecture: varies by topic; Lab: varies by topic.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**CUL 298 (2-3 credit hours)****Culinary Arts Practicum Experience**

Practicum enhances the student's transition from class to the work of work by providing unpaid work experience in a simulated or on-campus setting that utilizes the skills required to achieve the student's occupational goal. Practicum: 2.0 - 3.0 credits (120-180 contact hours)

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**CUL 299 (2-3 credit hours)****Culinary Arts Cooperative Education Experience**

Enhances the student's transition from class to the workforce by providing a paid work experience in a setting that utilizes the skills required to achieve the student's occupational goal. Practicum: 2.0-3.0 credits (120-180 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

## Cybersecurity (CYS)

**CYS 100 (1 credit hours)****Cybersecurity Orientation**

Provides an orientation to the field of cybersecurity and outlines expectations of the Cybersecurity AAS degree. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 101 (3 credit hours)****Cybersecurity Foundations**

Provides students with an overview of the cybersecurity field and its related concepts. Includes an introduction to cybersecurity terminology, best practices and ethics, principles and standards, and planning and managing cybersecurity functions and assets. Presents a foundation for understanding common threats and attacks and the methods and tools to defend and protect against the same. Includes an overview of human, organizational, social and legal issues related to cybersecurity. Presents concepts which meet national standards in cybersecurity. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CYS 100 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 130 (3 credit hours)****Introduction to Cyber Forensics**

Provides an overview of cybersecurity forensics. Includes an overview of data acquisition, processing crime and incident scenes, working with different platforms (Windows, Linux, Mac OS X, mobile, cloud), current forensics tools, report writing and ethical considerations in the digital forensics arena. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** CYS 101 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 140 (3 credit hours)****Data Security**

Provides a foundation for designing, creating, maintaining and secure databases. Emphasizes security for all topics presented. Introduces various database models and common security concerns including SQL injections. Presents database security models and concerns including inference, injections, hashing and encryption, data corruption, and access controls (DAC (Discretionary Access Control), MAC (Mandatory Access Control), RBAC, (Role Based Access Control) and Clark). Requires students to design and deploy a simple secure database for a specified application. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** CYS 100 and College Algebra College Readiness) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 145 (3 credit hours)****Foundations of Cyber Systems**

Provides students with an understanding of the components in an information technology system and their roles in system operations. Includes a theoretical understanding of the roles of an operating system, its basic functions, services, and security issues. Presents concepts related to common computer hardware and basic networking.

**Pre- or co-requisite:** CYS 100 and MAT 150) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 150 (3 credit hours)****Secure Software Development I**

Introduces secure software development using an easy-to-learn programming language appropriate for a first semester of secure coding. Covers secure coding principles and practices while focusing on developing software that is free from security vulnerabilities. Presents foundational programming concepts (data types; sequence, selection, and repetition control structures; single and two-dimensional arrays; and classes and objects) from a security perspective. Compares the strengths, weaknesses, and optimal applications for several scripting and programming languages, but focuses on writing secure code in a selected language, such as Python. Presents concepts which meet national standards in secure software development. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** (CYS 100 and MAT 150) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 202 (3 credit hours)****Human, Organizational, and Societal Security**

Provides students with an overview of human, organizational, and societal security. Covers trends in human behavior and resulting risks to individuals, organizations, and society. Covers techniques to encourage personal compliance with cybersecurity rules, policies, and norms. Provides an overview of personal, local, national, and international cybersecurity policies and legislation. Introduces cybersecurity ethics, theories, and related impact on individuals and society. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101 OR consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 231 (3 credit hours)****Internet of Things Security and Forensics**

Presents an overview of the Internet of Things (IoT) ecosystem and how to secure IoT devices and the data they contain. Covers IoT standards, guidelines and tools, including NIST (National Institute of Standards and Technology) standards and recommendations. Provides an overview of common IoT devices, applications and related security. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CYS 145 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 234 (3 credit hours)****Computer Operating Systems Forensics**

Provides an overview of digital forensics for computer operating systems (Linux, Windows, and macOS systems). Includes an in-depth study of registry/preference/configuration files, file systems, memory forensics, data and file recovery, web browsing, tracking artifacts, log files, executable programs, email and other related topics. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CYS 130 and CYS 145) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 245 (3 credit hours)****Advanced Cyber Systems**

Provides an advanced exploration of cyber systems including threats, attacks and vulnerabilities on an organization's information assets (hardware, software, data, and networks) and defense tools and techniques against threats, attacks, and vulnerabilities. Covers network protocols, logical and physical security measures, encryption and decryption techniques, disaster recovery, and incident response. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CYS 145 and MAT 150) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 247 (3 credit hours)****Linux Security**

Focuses on security aspects related to installation and administration and implementation of the Linux operating system. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CYS 245 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 248 (3 credit hours)****Network Security and Authentication**

Explores various communication protocols with a concentration on TCP/IP. Explores communication protocols from the point of view of the hacker to highlight protocol weaknesses. Encompasses internet architecture, routing, addressing, topology, fragmentation and protocol analysis and the use of various utilities to explore TCP/IP (Transmission Control Protocol/Internet Protocol). Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CYS 245 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 249 (3 credit hours)****Ethical Hacking**

Covers an in-depth exploration of methods for attacking and defending various types of networks. Explores network security concepts from a hacker's viewpoint including attack methodologies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CYS 245 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 250 (3 credit hours)****Secure Software Development II**

Provides a comprehensive study of secure software development using an object-oriented language appropriate for a second semester of programming (in a language different from CYS 150 to allow for a broader study of security across programming languages). Includes a syntax and security review of data types, control structures, and arrays for the language used in the course. Covers classes, objects, inheritance, polymorphism, sorting and searching algorithms, streams and files, exception handling, recursion, efficiency of algorithms, and standard libraries. Compares the strengths, weaknesses and optimal uses of several object-oriented programming languages but focuses on a single language such as Java or C/C++/C#. Covers syntax and logic concepts through a security perspective. Presents concepts which meet national standards in secure software development. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CYS 150 and MAT 150) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



**CYS 251 (3 credit hours)****Secure Software Development Bridge**

Provides an introduction to secure software development for students who have transfer courses for the first and second semester of software development (another college/university or KCTCS CIT courses). Presents an in-depth study of secure coding principles and practices typically covered in the first and second semester of secure software development courses. Presents concepts which meet national standards in secure software development. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ((CIT 149 and CIT 249) or (CS 115 and CS 215) or (INF 120 and INF 260) or (CIT 142 and CIT 242) or (CIT 143 and CIT 243)) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 255 (3 credit hours)****Secure Software Development III**

Provides an overview of data structures and related security issues. Presents an in-depth study of arrays, lists, linked lists, stacks, queues, trees, hash tables, heaps, and graphs. Provides an overview of several object-oriented languages and how they support and implement data structures. Presents concepts which meet national standards in secure software development. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (MAT 150 and (CYS 250 or CYS 251)) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 258 (3 credit hours)****Survey of Programming Languages**

Provides an overview of modern programming languages (scripting, query, and object-oriented) and highlights the strengths, weaknesses, and security implications of each. Presents scenarios and applications for each language (when to use and when not to use). Covers techniques for overcoming security vulnerabilities of the languages. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 265 (3 credit hours)****Network and Cloud Forensics**

Provides an overview of network and cloud forensics. Includes a review of the investigation methodology in the context of network and cloud evidence. Includes an in-depth study of network and cloud forensics including deep packet inspection, statistical flow analysis, tunneling and encryption, malware, network intrusions and footprints, and various tools to assist with network and cloud forensics. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CYS 130 and CYS 245) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 266 (3 credit hours)****Mobile Device Forensics**

Provides an overview of cyber forensics for mobile devices including but not limited to smartphones, tablets, IoT (Internet of Things) devices, and embedded systems (i.e. GPS (global positioning system), game consoles, smart TVs, drones, medical equipment, automotive equipment). Investigates common mobile operating systems (i.e. iOS, Android, Windows, and others). Includes a review of the investigation methodology in the context of mobile devices and evidence. Provides hands-on experience with open source and commercial (when possible) mobile device forensic tools. Covers how to create simple SQLite queries and/or scripts for mobile file interrogations. Covers how to write forensic reports that meet judicial and defense scrutiny. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CYS 130 and CYS 245) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 270 (3 credit hours)****Secure Web Applications**

Provides an introduction to secure web application development. Includes an overview of PHP (Hypertext Preprocessor), SQL (Structure Query Language), HTML (Hypertext Markup Language), and JavaScript and how each is used in developing secure web applications. Covers common security vulnerabilities found in web applications and how to mitigate them. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (CYS 140 and CYS 150) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 285 (3 credit hours)****Cryptography**

Provides students with an overview of cryptography and its role in cybersecurity. Introduces a variety of encryption algorithms and cryptographic protocols, tools, techniques, and standards. Includes a review of basic mathematical concepts which students will use to construct and break classical and modern ciphers. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 150 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**CYS 299 (3 credit hours)****Cybersecurity Capstone**

Prepares students for experiences and challenges that may be met while applying, interviewing, and working in a cybersecurity workplace. Includes three primary objectives of teamwork, experience, and employability. Includes an assessment of core cybersecurity curriculum competencies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CYS 285 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



## Dental Assisting (DAS)

### DAS 125 (6 credit hours)

#### Dental Assisting I

Introduces the profession of dental assisting, history of dentistry, chairside dental assisting, dental equipment, operative dentistry and dental specialties. Emphasizes essential dental assisting skills to prepare the student for clinical setting. Lecture: 2.0 (30 contact hours). Lab: 4.0 credits (120 contact hours).

**Pre-requisite:** Admission into the Dental Assisting Integrated program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### DAS 130 (2 credit hours)

#### Seminar I

Emphasizes leadership, management, clinical decision-making, judgment skills and professional values to facilitate the transition of the student to a professional dental assistant. Provides the opportunity for the application of critical thinking skills in the care of a diverse patient population in the dental setting. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Admission into the Dental Assisting Integrated program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### DAS 225 (2 credit hours)

#### Dental Assisting II

Continues DAS 120 concepts. Introduces student to remaining dental specialties and expanded dental assisting functions. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Dental Assisting: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, DAS 125, and DAS 130.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### DAS 230 (1 credit hours)

#### Seminar II

Provides the opportunity to discuss clinical experiences and prepare to sit for the Dental Assisting National Board (DANB). Provides students the opportunity to further develop professional growth plan. Lecture: 1.0 credit hour (15 contact hours).

**Pre-requisite:** Minimum grade of "C" in DAH 101, DAH 121, DAH 124, DAH 135, DAS 125, and DAS 130.

**Attributes:** Technical

**Components:** LEC: Lecture

### DAS 245 (2 credit hours)

#### Preventive Dentistry

Introduces dental biofilm and its role in dental disease. Emphasizes the role nutrition plays regarding disease initiation and progression and the methods and preventive agents utilized by the auxiliary to prevent oral disease. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Dental Assisting: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, DAS 125, and DAS 130.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### DAS 250 (5 credit hours)

#### Clinical Externship

Apply and practice principles and skills acquired in the areas of chairside assisting, operative procedures, specialty procedures, laboratory procedures, business office procedures and dental radiology. Consists of observation and practice in a dental office setting with emphasis on chairside activities. Practicum: 5.0 credits (320 contact hours).

**Pre-requisite:** Dental Assisting: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, DAS 125, and DAS 130.

**Attributes:** Technical

**Components:** PCM: Practicum

## Dental Hygiene (DAH)

### DAH 101 (2 credit hours)

#### Infection Control & Medical Emergencies

Examines current regulatory mandates, specific step-by-step procedures related to infection control, management of hazardous materials in the dental office, management of emergency situations and basic concepts of pharmacology. Lecture: 1.5 credits (22.5 contact hours). Lab: 0.5 credit (30 contact hours).

**Pre-requisite:** Admission into the Integrated Dental Assisting or Dental Hygiene Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### DAH 121 (3 credit hours)

#### Dental Sciences

Examines oral histology and embryology, head and neck anatomy, and tooth morphology as applicable to the practice of dental assisting and dental hygiene. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Admission into the Integrated Dental Assisting or Dental Hygiene Program.

**Attributes:** Technical

**Components:** LEC: Lecture

### DAH 124 (2 credit hours)

#### Materials In Dentistry

Examines the physical and chemical properties of dental materials with an emphasis on composition and application. Lecture: 1.5 credits (22.5 contact hours). Lab: 0.5 credit (30 contact hours).

**Pre-requisite:** Admission into the Integrated Dental Assisting or Dental Hygiene Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### DAH 131 (3 credit hours)

#### Oral Pathology

Introduces the disciplines of general pathology and oral pathology as related to dental auxiliary function. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Dental Assisting: Minimum grade of "C" in DAH 101, DAH 121, DAH 124, DAH 135, DAS 125, and DAS 130; Dental Hygiene: Minimum grade of "C" in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**DAH 135 (2 credit hours)****Oral Radiology**

Examines theory and clinical practice of oral radiographic methods. Presents history and development of x-radiation; properties and uses of x-radiation; radiation hygiene; exposing, processing and mounting of intraoral and extraoral films; and identification of radiographic anatomic landmarks. Lecture: 1.5 credits (22.5 contact hours). Lab: 0.5 credits (30 contact hours).

**Pre-requisite:** Admission into the Integrated Dental Assisting or Dental Hygiene Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DAH 235 (1 credit hours)****Practice Management**

Examines legal, ethical, and managerial aspects of the dental practice. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** Dental Assisting: Minimum grade of "C" in DAH 101, DAH 121, DAH 135, DAH 124, DAS 125 and DAS 130; Dental Hygiene: Minimum grade of "C" in DHG 220 and DHG 226.

**Attributes:** Technical

**Components:** LEC: Lecture

## Dental Hygiene (DHG)

**DHG 120 (3 credit hours)****Pre-Clinical Dental Hygiene**

Stresses basic assessment and clinical skills, related theory, and professional role and responsibilities of the dental hygienist as a member of the dental health team. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (120 contact hours).

**Pre-requisite:** Admission into the Dental Hygiene Integrated Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DHG 130 (3 credit hours)****Clinical Dental Hygiene I**

Focuses on preparing the student to provide patient treatment that includes preventive and therapeutic procedures to maintain oral health and assist the patient in achieving oral health goals. Lecture: 1.5 credits (22.5 contact hours). Lab: 0.5 credits (60 contact hours). Clinical: 1.0 credit (120 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**DHG 132 (2 credit hours)****Pharmacology**

Examines the disciplines of pharmacology and therapeutics as related to dental hygiene. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHG 134 (2 credit hours)****Dental Nutrition**

Presents basic principles of nutrition with emphasis on nutritional counseling in relationship to dental health, determination of patient nutritional status, and application to oral health and effects of nutritional deficiencies. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHG 136 (1 credit hours)****Periodontology**

Focuses on the clinical, histological, and radiographic differences between healthy and unhealthy periodontal tissues. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHG 220 (4 credit hours)****Clinical Dental Hygiene II**

Focuses on providing comprehensive dental hygiene care in a clinical setting while emphasizing the treatment of periodontal and special needs patients. Lecture: 2.0 credits (30 contact hours). Clinical: 2.0 credits (240 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 131, DHG 130, DHG 132, DHG 134, and DHG 136.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**DHG 221 (2 credit hours)****Local Anesthesia and Nitrous Oxide Sedation**

Presents a conceptual framework and clinical skills necessary to administer local dental anesthetics and nitrous oxide sedation in accordance with state dental practice acts. Lecture: 1.25 credit (19 contact hours). Lab: 0.75 credit (26 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 131, DHG 130, DHG 132, DHG 134, DHG 136, and current enrollment in the Dental Hygiene Integrated Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DHG 226 (2 credit hours)****Advanced Periodontology**

Focuses on the role of the dental hygienist in the prevention, diagnosis and treatment of periodontal diseases. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 131, DHG 130, DHG 132, DHG 134, and DHG 136.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHG 228 (1 credit hours)****Evidence-Based Practice for the Dental Hygienist**

Focuses on scientific methods in the problem-solving process utilized for making evidence-based decisions pertaining to the delivery of dental care. Lecture: 1.0 credits (15 contact hours).

**Pre-requisite:** Minimum grade of C in DAH 131, DHG 130, DHG 132, DHG 134, DHG 136, and current enrollment in the Dental Hygiene Integrated Program.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHG 230 (3 credit hours)****Clinical Dental Hygiene III**

Focuses on mastery of dental hygiene clinical skills for patient care and preparation for written and clinical board examinations. Lecture: 1.0 credit (15 contact hours). Clinical: 2.0 credits (240 contact hours).

**Pre-requisite:** Minimum grade of C in DHG 220 and DHG 226.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**DHG 238 (2 credit hours)****Community Dental Health Issues**

Examines basic concepts in assessing community dental health needs and planning, implementing, evaluating, and presenting dental health programs to various community groups. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Minimum grade of C in DHG 220 and DHG 226.

**Attributes:** Technical

**Components:** LEC: Lecture

## Dental Hygiene (DHP)

**DHP 120 (4 credit hours)****Dental Hygiene I**

Includes basic assessment and clinical skills, related theory, professional role and responsibilities of the dental hygienist as a member of the dental health team. BIO 137 and BIO 139 or equivalent, with a grade of "C" or better. Lecture: 2.5 credits (37.5 contact hours); Clinical: 1.5 hours (180 contact hours).

**Pre-requisite:** Acceptance into the Dental Hygiene Program; Computer Literacy or equivalency; and CPR certification.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**DHP 122 (2 credit hours)****Dental Nutrition**

Presents basic principles of nutrition with emphasis on nutritional counseling in relationship to dental health, determination of patient nutritional status, and application to oral health and effects of nutritional deficiencies. BIO 137 and BIO 139 or equivalent, with a grade of "C" or better. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Acceptance into the Dental Hygiene Program; Computer Literacy or equivalency; and CPR certification.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHP 123 (2 credit hours)****Oral Biology**

Focuses on oral histology and embryology, head and neck anatomy, and dental morphology applicable to the practice of dental hygiene. BIO 137 and BIO 139 or equivalent both with a minimum grade of C. Integrated Lecture: 1 credit (15 contact hours). Integrated Lab: 1 credit (45 contact hours).

**Pre-requisite:** Acceptance into Dental Hygiene Program; digital literacy is defined by KCTCS or equivalent; and CPR certification.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**DHP 124 (2 credit hours)****Materials in Dentistry**

Examines the physical and chemical properties of dental materials with an emphasis on composition and application. BIO 137 and BIO 139 or equivalent, both with a minimum grade of C. Lecture: 1.5 credits (22.5 contact hours). Laboratory: 0.5 credits (22.5 contact hours).

**Pre-requisite:** Acceptance into the Dental Hygiene Program; digital literacy as defined by KCTCS or equivalent; and CPR certification.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**DHP 130 (3 credit hours)****Dental Hygiene II**

Focuses on preparing the student to provide patient treatment that includes preventive and therapeutic procedures to maintain oral health and assist the patient in achieving oral health goals. Lecture: 2.0 credits (30 contact hours). Clinical: 1.0 credit (120 contact hours).

**Pre-requisite:** DHP 120, DHP 122, DHP 123, DHP 124 and (BIO 225 or BIO 226, or equivalent) all with a minimum grade of C.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**DHP 132 (4 credit hours)****Oral Pathology and Pharmacology**

Covers the disciplines of general pathology, oral pathology, pharmacology, and therapeutics as related to dental hygiene care. Integrated Lecture: 2.5 credits (37.5 contact hours). Integrated Lab: 1.5 credits (67.5 contact hours).

**Pre-requisite:** DHP 120, DHP 122, DHP 123, DHP 124 and (BIO 225 or 226 or equivalent) all with a minimum grade of C.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**DHP 135 (3 credit hours)****Dental Radiology**

Introduces theory and clinical practice of oral radiography. Presents the history, development, properties and uses of x-radiation. Emphasizes radiation hygiene and safety. Covers digital technology and all types of radiographic systems. Introduces radiographic anatomical landmarks and pathology seen on radiographs. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credit (30 contact hours).

**Pre-requisite:** DHP 120, DHP 122, DHP 123, DHP 124, and (BIO 225 or BIO 226, or equivalent) all with a minimum grade of C.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DHP 136 (2 credit hours)****Periodontics I**

Introduces the clinical, histological, and radiographic differences between healthy and unhealthy periodontal tissues. Emphasizes etiology, risk factor assessment, pathogenesis, and classification of periodontal diseases. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** DHP 120, DHP 122, DHP 123, DHP 124, and (BIO 225 or BIO 226, or equivalent) all with a minimum grade of C.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHP 220 (3 credit hours)****Dental Hygiene III**

Emphasizes the continued treatment of clinical patients. Focuses on treatment and management of dental patients with special needs and emphasizes appropriate changes in dental treatment in response to a patient's medical condition. Clinical: 2.0 credits (240 contact hours). Discussion: 1.0 credit (15 contact hours).

**Pre-requisite:** DHP 130, DHP 132, DHP 135 and DHP 136 all with a minimum grade of C.

**Attributes:** Technical

**Components:** CLN: Clinical, DIS: Discussion

**DHP 222 (3 credit hours)****Special Needs Patients**

Focuses on the specific oral health care needs of persons with a variety of medical, disabling or mental conditions and provides for discussion of innovative approaches to serving populations with special oral health care needs. Emphasizes special pharmacological considerations and treatment modifications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** DHP 130, DHP 132, DHP 135, and DHP 136 all with a minimum grade of C.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHP 226 (2 credit hours)****Periodontics II**

Emphasizes the role of the dental hygienist in the identification and treatment of periodontal diseases. Focuses on non-surgical interventions and current surgical therapies in dentistry. Introduces implant management, advanced instrumentation and the dental laser. Lecture: 1.5 credits (22.5 contact hours). Laboratory: 0.5 credit (30 contact hours).

**Pre-requisite:** DHP 130, DHP 132, DHP 135 and DHP 136 all with a minimum grade of C.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DHP 229 (2 credit hours)****Local Anesthesia and Nitrous Oxide Sedation**

Presents a conceptual framework and clinical skills necessary to administer local dental anesthetics and nitrous oxide sedation in accordance with Kentucky state dental practice act. Lecture: 1.25 credits (18.75 contact hours). Lab: 0.75 credit (45 contact hours).

**Pre-requisite:** DHP 130, DHP 132, DHP 135 and DHP 136 all with a minimum grade of C.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DHP 230 (3 credit hours)****Dental Hygiene IV**

Focuses on mastery of all dental hygiene clinical skills utilized in treating all types of patients. Clinical: 2.0 credits (240 contact hours). Discussion: 1.0 credit (15 contact hours).

**Pre-requisite:** DHP 220, DHP 222, DHP 226, and DHP 229 all with a minimum grade of C.

**Attributes:** Technical

**Components:** CLN: Clinical, DIS: Discussion

**DHP 235 (1 credit hours)****Principles of Practice**

Emphasizes the legal, ethical, and managerial aspects of dental hygiene practice. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** DHP 220, DHP 222, DHP 226, and DHP 229 all with a minimum grade of C.

**Attributes:** Technical

**Components:** LEC: Lecture

**DHP 238 (3 credit hours)****Community Dental Health**

Examines the assessment, planning, implementation and evaluation of community oral health needs. Focuses on reading and interpreting evidence-based literature. Relates current trends and best practices in oral health education. Emphasizes the presentation of dental health programs and educational research projects to community groups. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** DHP 220, DHP 222, DHP 226 and DHP 229 all with a minimum grade of C.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Diagnostic Medical Sonographer (DMS)

**DMS 109 (7 credit hours)****Sonography I**

Provides a study of diagnostic foundations of clinical medicine pertinent to abdominal, superficial structures, musculoskeletal and non-cardiac chest sonography. Includes obtaining the clinical history, interpretation of clinical laboratory test, the pathophysiologic effects of disease, related clinical signs and symptoms, sectional anatomy, and normal/ abnormal sonographic patterns. Includes a laboratory component for the practice and application of normal sonographic patterns, basic scanning techniques and protocol. Lecture: 5.0 credits (75 contact hours), Laboratory: 2.0 credits (90 contact hours) (45:1 Ratio).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMS 111 (7 credit hours)****Abdominal Sonography**

Provides a study of diagnostic foundations of clinical medicine pertinent to abdominal, superficial, musculoskeletal and non-cardiac chest sonography. Includes obtaining the clinical history, interpretation of clinical laboratory test, the pathophysiologic effects of disease, related clinical signs and symptoms, sectional anatomy, and normal/ abnormal sonographic patterns. Includes a laboratory component for the practice and application of normal sonographic patterns, basic scanning techniques and protocol. Lecture: 5.0 credits (75 contact hours) Lab: 2.0 credits (90 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**DMS 115 (6 credit hours)****Sonography II**

Covers the study of the clinical applications within the sonographic specialties of obstetrics, gynecology, female breast, and neurosonography. Includes related clinical symptoms and laboratory tests, pathophysiologic effects of disease and anomalies, and normal/abnormal sonographic patterns. Includes basic scanning techniques and protocol. with an emphasis on the demonstration of clinical applications of theoretical principles and concepts. Lecture: 4.0 credits (60 contact hours), Laboratory: 2.0 credits (90 contact hours), (45:1 Ratio).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMS 116 (6 credit hours)****OB/GYN Sonography**

Covers the study of the clinical applications within the sonographic specialties of obstetrics and gynecology. Includes related clinical symptoms and laboratory test, pathophysiologic effects of disease and anomalies, and normal/abnormal sonographic patterns. Includes basic scanning techniques and protocol. Designed for the student to utilize the laboratory facilities to demonstrate clinical applications of theoretical principles and concepts. 0 credits (150 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography Program; NAA 100 or equivalent; CPR certification; Lecture/Lab: 6.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 117 (7 credit hours)****Vascular Sonography I**

Provides a study of diagnostic foundations of clinical medicine pertinent to vascular sonography. Includes obtaining the clinical history, interpretation of clinical laboratory test, the pathophysiologic effects of disease, related clinical signs and symptoms, sectional/vascular anatomy, and normal/abnormal sonographic patterns. Includes a laboratory component for the practice and application of normal sonographic patterns, basic scanning techniques and protocol. Lecture/Lab: 7.0 credits (165 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent; CPR certification.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 118 (6 credit hours)****Vascular Sonography II**

Covers the study of the clinical applications of peripheral venous, peripheral arterial and abdominal vasculature within the sonographic vascular concentration. Includes related clinical symptoms and laboratory test, pathophysiologic effects of disease and anomalies, and normal/abnormal sonographic patterns. Includes basic scanning techniques and protocol. Designed for the student to utilize the laboratory facilities to demonstrate clinical applications of theoretical principles and concepts. Lecture/Lab: 6.0 credits (150 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent; CPR certification.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 119 (6 credit hours)****Ultrasonic Physics and Instrumentation**

Consists of lectures and related laboratory exercises covering the areas of ultrasonic propagation principles, transducer parameters, interactive properties of ultrasound with human tissue, possible biologic effects, basic equipment types, instrumentation and quality control procedures, hemodynamics and basic Doppler. Lecture: 6.0 credits (90 contact hours).

**Pre-requisite:** Consent of Program Coordinator.

**Attributes:** Digital Literacy, Technical

**Components:** LEC: Lecture

**DMS 126 (3-4 credit hours)****Clinical Education I**

Includes observation of all clinical duties performed in the ultrasound department. Covers basic instruction and scanning experience in abdomen, superficial structures, non-cardiac chest, embryo/fetus, gravid and non-gravid pelvic structures with basic competencies to be performed. Clinical: 3 - 4 credits (180 - 240 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR Certification.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 136 (4 credit hours)****Vascular Clinical Education I**

Includes observation and practice of all clinical duties performed in the vascular lab with basic instruction and scanning experience under the supervision of a credentialed Vascular Sonographer. Clinical: 4.0 credits (240 contact hours).

**Pre-requisite:** DMS 117 with minimum "C" grade.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 146 (12 credit hours)****Cardiac Techniques I**

Provides a study of normal cardiovascular anatomy and physiology including hemodynamic concepts, electrophysiology, and the conduction system. Includes patient care and medical and legal issues of sonographers. Presents pathophysiologic conditions, signs and symptoms of valvular heart disease, ischemic cardiac disease, and infective endocarditis, and prosthetic heart valves and discussion of the various cardiac testing procedures used in diagnosis. Includes a laboratory component to develop basic skills in 2D, M-mode, Doppler scanning techniques and standard measurements. Integrated Lecture/Lab: 12 credit hours (300 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.

**Co-requisite:** DMS 147.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture



**DMS 147 (1 credit hours)****Cardiac Clinical Education I**

Introduces the student to the clinical environment including the function and organization of the echocardiography department and the various testing procedures utilized in the diagnosis of cardiac diseases. Presents opportunities to observe and model the appropriate professional behaviors and communication expected in the clinical setting and initiates the performance of basic scan skills under the supervision of appropriately credentialed cardiac sonographers. Clinical: 1 credit hour (60 contact hours).

**Pre-requisite:** Admission to the Diagnostic Medical Sonography program; NAA 100 or equivalent; CPR certification.

**Co-requisite:** DMS 146.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 199 (1 credit hours)****Online Physics Review**

Includes a review of basic ultrasound physics, transducers, bioeffects, artifacts, quality assurance and principles of Doppler techniques. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** DMS 119 or 121 with minimum "C" grade or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 201 (1 credit hours)****Online Abdomen Review**

Provides a review of abdominal sonography to prepare the student for the related registry. Includes obtaining a clinical history, interpretation of clinical laboratory tests, pathologic basis for disease, related clinical signs and symptoms, sectional anatomy, and normal/abnormal sonographic patterns. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** DMS 109 or DSM 111 with minimum "C" grade or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 202 (1 credit hours)****Online OB/GYN Review**

Provides a review of related clinical signs and symptoms, laboratory tests, and normal/abnormal sonographic patterns in preparation for the related Ob/Gyn registry. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** DMS 115 or DMS 116 with minimum "C" grade or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 204 (2 credit hours)****Online Vascular Review**

Provides a review of vascular sonography to prepare the student for the ARDMS certification examination. Includes activities and quizzes related to cerebrovascular, intracranial, peripheral venous, peripheral arterial and abdominal vascular sonography. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 206 (3 credit hours)****Online Vascular Sonography III**

Covers the various test, miscellaneous conditions encountered in vascular sonography. Emphasizes the importance of quality measurements and safety practices. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography Program; Computer Literacy; NAA 100 or equivalent; CPR certification.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 207 (7 credit hours)****Cardiac Techniques II**

Presents content on additional cardiac pathologies including acquired and congenital heart diseases. Covers the relationship of echocardiography to patient history and physical examination, abstracting the clinical chart, indications for exam, and differential diagnoses. Discusses cardiovascular pharmacology, their potential effects on echocardiographic findings, and provocative agents and maneuvers. Includes a laboratory component to further develop scan skills and practice more advanced evaluations of Color Flow, Pulsed and Continuous wave Doppler findings, valvular stenosis severity, ventricular function, and abnormal cardiovascular hemodynamics and flow patterns and correlating Doppler findings. Integrated Lecture/Lab: 7 credit hours (195 contact hours).

**Pre-requisite:** DMS 146 with a minimum "C" grade or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**DMS 216 (3 credit hours)****Cardiac Techniques III**

Presents content on contrast, 3D echocardiography, transesophageal echocardiography (TEE), stress echocardiography, Intensive Care Unit patient, and operative/perioperative applications. Covers heart transplant, emergency and echo-guided procedures and effects of systemic diseases on the heart. Enhance with opportunity for hands-on practice with 3D and strain echocardiographic advanced scanning techniques. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** DMS 207 with a minimum "C" grade or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 217 (3 credit hours)****Basic Cardiac Ultrasound Technology**

Provides review and practical application of ultrasound and Doppler physics; cardiac anatomy, physiology, and pathophysiology; cardiac imaging: 2D, M-mode, Spectral and Color Doppler; and exam protocols. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Applicants must be RDMS credentialed or graduate of an accredited sonography program or consent of a sonography program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 218 (2 credit hours)****Abdominal Review**

Provides a review of abdominal sonography to prepare the student for the related registry. Includes obtaining a clinical history, interpretation of clinical laboratory tests, pathologic basis for disease, related clinical signs and symptoms, sectional anatomy, and normal/abnormal sonographic patterns. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** DMS 109, or DMS 111 with a minimum "C" grade, or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 219 (2 credit hours)****OB/GYN Review**

Provides a review of related clinical signs and symptoms, laboratory tests, and normal/abnormal sonographic patterns in preparation for the related Ob/Gyn registry. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** DMS 115 or DMS 116 with a minimum "C" grade, or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 230 (5-8 credit hours)****Clinical Education II**

Includes interaction in all clinical duties performed in all ultrasound departments. Covers abdomen, superficial structures, non- cardiac chest, embryo/fetus, and the gravid and non-gravid pelvic structures with performance of basic and advanced competencies to be performed. Clinical: 5 - 8 credits (300 - 480 contact hours).

**Pre-requisite:** Admission to Diagnostic Medical Sonography Program; Minimum grade of "C" in BIO 135 or (BIO 137 and BIO 139) and (PHY 151 or PHY 152 or PHY 171) and MAT 150.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 236 (8 credit hours)****Vascular Clinical Education II**

Includes experience in clinical applications of cerebrovascular, intracranial, peripheral arterial, peripheral venous, and abdominal vascular sonographic examinations. Requires the performance of competencies with the rate of progress dependent upon the student's ability to comprehend and perform assignments. Clinical: 8.0 credits (480 contact hours).

**Pre-requisite:** DMS 136 with minimum "C" grade.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 237 (5 credit hours)****Vascular Clinical Education III**

Provides a more active clinical role in assisting the practicing vascular Sonographer and performing sonographic duties under direct supervision. Requires the performance of competencies with the rate of progress dependent upon the student's ability to comprehend and perform assignments. Clinical: 5.0 credits (300 contact hours).

**Pre-requisite:** Minimum "C" grade in DMS 136 and DMS 236.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 240 (5-8 credit hours)****Clinical Education III**

Continues the clinical experience by student assuming a more active role in assisting the practicing sonographer and performing sonographic duties under direct supervision with the rate of progress dependent upon the student's ability to comprehend and perform assignments. Clinical: 5.0 - 8.0 credits (300 - 480 contact hours).

**Pre-requisite:** DMS 230 with Minimum "C" grade.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 246 (1 credit hours)****Cardiac Review**

Provides review of Adult Echocardiography material and practice with registry-formatted testing in preparation for challenging the national certifying board examination. Lecture: 1 credit hour (15 contact hours).

**Pre-requisite:** DMS 207 with minimum "C" grade or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 247 (2 credit hours)****Cardiac Clinical Education II**

Includes observation of all clinical duties in the echocardiographic department including routine, stress, transesophageal echocardiography (TEE), and 3D echocardiography as possible. Emphasizes basic clinical scanning experience under the supervision of a credentialed Cardiac Sonographer. Clinical: 2 credit hours (120 contact hours).

**Pre-requisite:** DMS 147 with a grade of Pass or Consent of Program Coordinator.

**Co-requisite:** DMS 207.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 248 (6 credit hours)****Cardiac Clinical Education III**

Requires progressive clinical experience with student assuming a more active role in assisting the supervising Cardiac Sonographer with the rate of progress dependent upon the student's ability. Emphasizes increased participation in performance of the complete adult echo examination including scanning competencies, and participation in non-routine procedures including transesophageal echocardiography (TEE) and stress echocardiographic studies. Clinical: 6 credit hours (360 contact hours).

**Pre-requisite:** DMS 247 with minimum "C" grade or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 249 (8 credit hours)****Cardiac Clinical Education IV**

Requires entry-level or above proficiency in scanning skills and knowledge in adult echocardiography. Introduces echocardiography of the pediatric patient and use of advanced techniques such as contrast, strain, and 3D echocardiography. Compares current with previous scans and tailoring the exam as indicated by findings encountered during the examination. Clinical: 8 credit hours (480 contact hours).

**Pre-requisite:** DMS 248 with minimum "C" grade or Consent of Program Coordinator.

**Co-requisite:** DMS 216.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 255 (6 credit hours)****Vascular Technology**

Presents normal/abnormal sectional anatomy, hemodynamics, patient assessment and diagnostic testing related to vascular technology. Includes applications of pathophysiologic basis, clinical signs and symptoms and typical findings related to the peripheral vascular system. Includes therapeutic interventions, intraoperative monitoring and the use of contrast agents. Covers vascular physics including blood flow characteristics and pressure/flow/velocity relationships. Lecture/Lab: 6.0 credits (120 contact hours).

**Pre-requisite:** Minimum "C" grade in (DMS 119 and DMS 240) or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMS 260 (6 credit hours)****Vascular Clinical Education**

Provides clinical experience by student actively assisting and performing vascular procedures under direct supervision of a Vascular Technologist. Completes competencies including cerebrovascular, upper/lower venous/arterial extremity, and abdominal vasculature. Clinical: 6 credits (360 contact hours).

**Pre-requisite:** Minimum "C" grade in (DMS 119 and DMS 240) or consent of Program Coordinator.

**Attributes:** Technical

**Components:** CLN: Clinical

**DMS 280 (3 credit hours)****Basic Vascular Technology**

Provides review and practical application of vascular technology (Carotid Duplex Scanning and Peripheral Vascular Scanning) with an analysis of anatomy, physics, hemodynamics, exam protocols, and pathology. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Applicant must be RDMS credentialed or a graduate of an accredited sonography program or Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

## Diesel Technology (DIT)

**DIT 103 (2 credit hours)****Preventive Maintenance Lab**

Instruction on preventive maintenance practices, scheduled procedures, documents, and D.O.T. required record system and on determining the needs for repair. Laboratory: 2.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 105 (1 credit hours)****Mechanical Principles**

Provides opportunities to practice hands on skills of measuring with precision measurement tools such as micrometers, dial indicator sand caliper. This class also provides opportunities for the student to practice drilling and tapping. Proper rigging techniques are illustrated and practice to ensure that the student will know how to safely lift large and awkward items. Laboratory: 1.0 credit (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 110 (3 credit hours)****Introduction To Diesel Engines**

Covers fundamental concepts of the operation of two- and four-stroke diesel and gasoline engines. Includes basic engine components and their functions, engine performance terminology, two- and four-stroke operation, combustion principles, and engine disassembly with basic hand tools. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 111.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 111 (2 credit hours)****Introduction To Diesel Engines Lab**

Explains the hands-on concepts covered in DIT 110. Provides opportunities to inspect, diagnose, and repair internal combustion diesel engines while learning basic repair strategies. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 110.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 112 (3 credit hours)****Diesel Engine Repair**

Includes how to take a disassembled engine and evaluate the condition of each component. Includes the identification and use or function of each component of the engine. Covers cylinder block and components, cylinder heads and valve train components, cylinder heads and valve train components, and engine lubrication systems. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** DIT 110 or ADX 150.

**Co-requisite:** DIT 113.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 113 (2 credit hours)****Diesel Engine Repair Lab**

Explains the hands-on concepts covered in DIT 112. Provides opportunities to inspect, diagnose and repair internal combustion late model diesel engines while learning basic repair strategies. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** DIT 111 or ADX 151.

**Co-requisite:** DIT 112.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 120 (3 credit hours)****Introduction to Maintenance Welding**

This course provides training in the identification, inspection and maintenance of welding electrodes. Training will be given in the principles and processes of welding plates and pipes. Instruction will be given in lab safety and basic oxy fuel cutting. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 121 (3 credit hours)****Introduction to Maintenance Welding Lab**

Provides laboratory experiences in which students acquire the manipulative skills needed to weld surface, fillet, and groove welds in flat and horizontal positions. The students will perform oxy fuel cutting operations. Lab: 3.0 credits (135 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 123 (3 credit hours)****Undercarriage Lab**

Provides opportunities to troubleshoot and repair some parts of undercarriage systems and their components. These components include endless track, roller track, roller frames, idlers, roller supports, and mainframes. Lab: 3.0 credits (135 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 140 (3 credit hours)****Hydraulics**

Covers the theory and operation of a hydraulic system including pumps, filters, reservoirs, valves and actuators. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 141.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 141 (2 credit hours)****Hydraulics Lab**

Explains the hands-on concepts covered in DIT 140. Provides opportunities to inspect, diagnose, and repair hydraulic systems while learning basic repair strategies. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 140.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 150 (3 credit hours)****Power Trains**

Covers the theory and operation of the power train systems on medium and heavy duty trucks. Covers the diagnosis and repair techniques of the power train system. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 151.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 151 (2 credit hours)****Power Trains Lab**

Provides practical applications of concepts taught in DIT 150. Explains clutches, transmissions, and drive axles on medium and heavy-duty trucks. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 152 (3 credit hours)****Powertrain for Construction Equipment**

Students learn the theory and principles of the operation of power transmissions. They learn to diagnose and repair power train units including torque connectors, standard and automatic transmissions. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 153 (2 credit hours)****Powertrain for Construction Equipment Lab**

Students troubleshoot, disassemble, evaluate parts and reassemble components of a power train system, such as torque connectors, standard and automatic transmissions, and drive lines. Laboratory: 2 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 160 (3 credit hours)****Steering and Suspension**

Covers the theory, operation and diagnosis of the steering and suspension system on medium and heavy duty trucks. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 161.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 161 (2 credit hours)****Steering and Suspension Lab**

Provides practical applications of concepts taught in DIT 160. Introduces the skills necessary to diagnosis and repair truck suspension systems, wheel alignment, and wheel balancing. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** DIT 160.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 180 (3 credit hours)****Brakes**

Covers the operational theory and application of air brakes, hydraulic brakes and anti-lock brake systems. Covers the function and repair of disc brakes and drums brakes. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 181.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 181 (2 credit hours)****Brakes Lab**

Provides hands on activities related to the concepts covered in DIT 180. Supports the inspection, diagnosis, and repairs on air and hydraulic powered braking systems found on medium and heavy-duty trucks. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 180.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 190 (3 credit hours)****Electrical Systems for Diesel Equipment**

Covers the operation and diagnosis of the truck electrical system including the battery, starter, alternator, lighting and accessories. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 191.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 191 (2 credit hours)****Electrical Systems for Diesel Equipment Lab**

Provides hands on activities related to the concepts covered in DIT 190. Supports inspection, diagnosis, and repairs on batteries, starters, alternators, and accessory systems found on medium and heavy-duty trucks. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 190.

**Attributes:** Technical

**Components:** LAB: Laboratory



**DIT 198 (1 credit hours)****Practicum**

The Practicum provides supervised on-the-job work experience related to the student's education objectives. Students participating in the Practicum do not receive compensation. Practicum: 1 credit (75 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**DIT 199 (1 credit hours)****Cooperative Education**

The cooperative education program provides supervised on-the-job work experience related to the students education objectives. Students participating in the Cooperative Education Program normally receive compensation. Co-op: 1 credit (75 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**DIT 298 (2 credit hours)****Practicum**

The Practicum provides supervised on-the-job work experience related to the students education objectives. Students participating in the Practicum do not receive compensation. Practicum: 2 credits (150 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

## Digital Literacy (DLC)

**DLC 101 (3 credit hours)****Digital Literacy**

Introduces the central components of digital literacy including computer operation for information gathering, communication, and living/working online. Presents how to use productivity software such as word processors, spreadsheets, databases, and presentation software. Exploration of the legal and ethical environment concerning computer technology. Addresses issues related to computers security, troubleshooting, and methods for enhancing work and life. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** RDG 20 OR Consent of Instructor.

**Attributes:** Digital Literacy, Course Also Offered in Modules

**Components:** LEC: Lecture

## Economics (ECO)

**ECO 101 (3 credit hours)****Contemporary Economic Issues**

Covers contemporary economic issues such as inflation, poverty and affluence, globalization, and environmental pollution. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**ECO 150 (3 credit hours)****Introduction to Global Economics**

Covers the causes and issues of global economic interdependence, with particular emphasis on cross-cultural implications of globalization. Includes global economic issues such as economic development, global economic governance, changing demographics, health care, world poverty, changing patterns of food production, global energy use, and the economic consequences of global environmental issues. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**ECO 201 (3 credit hours)****Principles of Microeconomics**

Covers the allocation of scarce resources from the viewpoint of individual economic units. Topics include supply and demand, elasticity, costs, and markets. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**ECO 202 (3 credit hours)****Principles of Macroeconomics**

Covers how society's needs are satisfied with the limited resources available. Includes issues such as inflation, unemployment, economic growth, globalization, and fiscal and monetary policy. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**ECO 1011 (1 credit hours)****How Markets Work**

Covers the foundations of contemporary economic issues emphasizing scarcity, choice, benefits, costs, and supply and demand. Lecture: 1 credit (15 contact hours).

**Components:** LEC: Lecture

**ECO 1012 (1 credit hours)****Markets and Macroeconomic Goals**

Covers contemporary economic issues such as price indices, efficiency, equity, poverty and welfare. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** ECO 1011.

**Components:** LEC: Lecture

**ECO 1013 (1 credit hours)****Markets and Regulation**

Covers contemporary economic issues such as externalities, market failure, globalization, and environmental pollution. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** ECO 1012.

**Components:** LEC: Lecture

**ECO 2011 (0.75 credit hours)****The Role of Economics**

Covers the allocation of scarce resources from the viewpoint of individual economic units. Topics include the circular flow of resources in the economy, the production possibilities frontier, and opportunity cost. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**ECO 2012 (0.75 credit hours)****How Markets Work**

Covers the allocation of scarce resources from the viewpoint of individual economic units. Includes supply and demand and government intervention in markets. Lecture: 0.75 (11.25 contact hours).

**Pre-requisite:** ECO 2011.

**Components:** LEC: Lecture



**ECO 2013 (0.75 credit hours)****Markets and Welfare**

Covers the allocation of scarce resources from the viewpoint of individual economic units. Includes consumer and producer decision making and the equity and efficiency of markets. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** ECO 2012.

**Components:** LEC: Lecture

**ECO 2014 (0.75 credit hours)****Firm Behavior and Market Structures**

Covers the allocation of scarce resources from the viewpoint of individual economic units. Includes competitive and non-competitive markets. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** ECO 2013.

**Components:** LEC: Lecture

**ECO 2021 (0.75 credit hours)****Measuring Macroeconomic Outcomes**

Covers how society's needs are satisfied with the limited resources available. Includes national income accounting, inflation, and unemployment. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**ECO 2022 (0.75 credit hours)****Basic Macroeconomic Relationships**

Covers how society's needs are satisfied with the limited resources available. Topics include the aggregate expenditure model, aggregate supply and aggregate demand. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** ECO 2021.

**Components:** LEC: Lecture

**ECO 2023 (0.75 credit hours)****Stabilization Tools**

Covers how society's needs are satisfied with the limited resources available. Includes economic growth, fiscal policy, and monetary policy. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** ECO 2022.

**Components:** LEC: Lecture

**ECO 2024 (0.75 credit hours)****The International Economy**

Covers how society's needs are satisfied with the limited resources available. Includes international trade and international finance. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** ECO 2023.

**Components:** LEC: Lecture

## Economics (EFM)

**EFM 100 (3 credit hours)****Personal Financial Management**

Successful completion of this course will result in an understanding of the role of the U.S. in a global economy and how an individual can function successfully in the U.S. economic system. Students will explore the various aspects involved in being responsible consumers, the importance of personal financial planning, the relationship between employment opportunities and financial security, and other aspects of becoming successful and productive workers, consumers, and citizens. Lecture: 3 credits (45 contact hours).

**Attributes:** Other, Enrichment Course Other

**Components:** LEC: Lecture

## Education (EDM)

**EDM 270 (3 credit hours)****Teaching and Learning in the Middle Grades**

Provides students in middle school education with knowledge and experience critical for instruction of middle school students and management of middle school classrooms. Requires field experience of a minimum of 15 clock hours in instructor-approved education agencies. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EDP 202 and EDU 201.

**Attributes:** Technical

**Components:** LEC: Lecture

## Education (EDU)

**EDU 110 (3 credit hours)****Orientation to Education**

Introduces the roles and responsibilities of both the paraeducator and the classroom teacher. Covers legal and ethical issues that might be encountered in the classroom, instructional support strategies that might be implemented by paraeducators, universal health and safety procedures, and the importance of communication and teamwork in the instructional environment. Introduces the design of learning environments that encourage active participation in individual and group settings. Requires 10 hours of field work. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EDU 120 (3 credit hours)****Child and Adolescent Development**

Acquaints the student with the cognitive, social, moral, language, emotional, and physical development of children and adolescents. Addresses the application of these theories in the modern classroom. Requires 10 hours of field work. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EDU 130 (3 credit hours)****Introduction to Special Education**

Introduces methods on the creation of a learning environment, basic classroom management theories, key principles and practices of special education, and the similarities and differences of individuals with and without exceptional learning needs. Requires 10 hours of field work. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EDU 140 (3 credit hours)****Introduction to Behavior Management**

Introduces the student to strategies of classroom and behavior management that create a positive learning environment encouraging student self-advocacy, increased independence, and improved communication skills. Introduces behavior management strategies that encourage respect and value individual differences among children, youth, and adults and how consequences should be used to motivate positive student behavior. Includes focus on chronic behavior problems. Requires 10 hours of field work. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**EDU 201 (3 credit hours)****Introduction to American Education**

Presents an introduction to teaching including teaching as a profession, major educational philosophies, social reform, trends and issues in education, curriculum and instruction. Requires a minimum of 15 clock hours of field observation in an approved educational setting. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ENG 101 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EDU 204 (3 credit hours)****Technology In the Classroom**

Provides the student with a basic skill set to utilize technology in instruction and instructional management. Explores the methods of using computing fundamentals, key technology applications, and the digital environment to enhance teaching and learning. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Digital Literacy

**Components:** LEC: Lecture

**EDU 240 (3 credit hours)****Elementary and Middle School Literature**

Surveys both traditional and modern literature for children and adolescents. Emphasizes selection, evaluation, storytelling, and the use of media to meet the literary needs and interests of children from preschool through middle school. Requires fifteen hours of field observation. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ENG 102.

**Attributes:** Technical

**Components:** LEC: Lecture

**EDU 260U (3 credit hours)****Classroom Assessment**

An introduction to the integrated use of assessment in the classroom context for K-12 student learning, teacher planning, and school improvement. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** EDU250/EDU201 or consent of instructor.

**Attributes:** University Course (Western Kentucky University)

**Components:** LEC: Lecture

**University Course:** Western Kentucky University

**EDU 270 (3 credit hours)****Elementary School Literature**

Surveys traditional and modern literature for elementary school children. Emphasizes selection, evaluation, storytelling, and use of media to meet the literary needs and interests of children. Requires a minimum of 15 clock hours of field observation in an approved educational setting. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Technical

**Components:** LEC: Lecture

## Educational and Counseling Psychology (EDP)

**EDP 202 (3 credit hours)****Human Development and Learning**

Presents theories and concepts of human development, learning, and motivation and applies them to interpreting and explaining human behavior and interaction in relation to teaching across the developmental span from early childhood to adulthood. Requires field experience of a minimum of 15 clock hours in instructor-approved educational agencies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PSY 100 or PSY 110.

**Attributes:** Other

**Components:** LEC: Lecture

**EDP 203 (3 credit hours)****Teaching Exceptional Learners in Regular Classrooms**

Introduces the characteristics and instructional needs of exceptional learners with an overview of principles, procedures, methods, and materials for adapting educational programs to accommodate the integration of exceptional children in regular classrooms, when appropriate. Requires field experience of a minimum of 12 clock hours in instructor-approved educational agencies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** EDP 202 with an earned grade of C or higher.

**Attributes:** Other

**Components:** LEC: Lecture

**EDP 260 (3 credit hours)****Motivation and Classroom Management**

Provides students with a theoretical background of motivation and behavior. Reviews current classroom practices to motivate students and ensure positive classroom behavior. Applies strategies to classroom situations. Teaches basic research methods that apply strategies to classroom situations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EDP 202.

**Attributes:** Other

**Components:** LEC: Lecture

## Electrical Engineering (EE)

**EE 210U (3.5 credit hours)****Circuits and Networks I**

An introductory course in circuit analysis including Kirchhoff's Laws, independent and dependent sources, power and energy, lumped linear fixed networks, power factor, phasors, and three phase networks. Lecture: 3 credit hours (37.5 contact hours). Lab: 0.50 credit hour (30 credit hours).

**Pre-requisite:** MAT 185 Calculus II (C or better).

**Co-requisite:** PHY 232 University Physics II.

**Attributes:** University Course (Western Kentucky University)

**Components:** LAB: Laboratory, LEC: Lecture

**University Course:** Western Kentucky University

**EE 211 (4 credit hours)****Circuits I**

Fundamental laws, principles and analysis techniques for DC and AC linear circuits whose elements consist of passive and active components used in modern engineering practice including the determination of steady state and transient responses. Pre-requisite or concurrent: PHY 232, PHY 242.

**Pre-requisite:** MA 114.

**Attributes:** Due to Inactivity, Technical

**Components:** LEC: Lecture

## Electrical Technology (ETT)

**ETT 114 (4 credit hours)****Voice & Data Installer Level II**

Designed for experienced telecommunications installers who wish to expand knowledge of the industry, learn new skills, and continue to advance professionally. The Installer Level 2 course requires two to five years of recent, verifiable telecommunications/low voltage cabling experience. In addition, several sections from the Installer Level 1 course will be covered comprehensively in this course. Lecture: 3 credit (45 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** ETT 110 with a grade of C or greater.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ETT 120 (3 credit hours)****Project Management**

Addresses project management issues including client integration, subcontractor liaison, scheduling, organization, methodologies, status reporting, quality control and safety. Contractual obligations, legal implications, terms and conditions and other associated risks encountered on large or complex projects are also examined. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**ETT 122 (3 credit hours)****Voice & Data Installer Technician**

The most advanced phase of a telecommunication cabling installation training program. Designed for those individuals with five (5) or more years of recent verifiable telecommunications/low voltage cabling experience. Prerequisite: ETT 114 with a grade of C or better. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**ETT 123 (2 credit hours)****Voice & Data Installer Technician Lab**

Permits hands-on applications of the theories and fundamentals learned in ETT 122. Corequisite: ETT 122. Laboratory: 2 credits (60 contact hours).

**Components:** LAB: Laboratory

## Electronics (EES)

**EES 101 (2 credit hours)****Basic Electronics**

Provides the foundation for further study in technologies related to electricity or electronics. Addresses the following areas: basic electrical components and their properties, quantities, and units of measurement; calculation of voltage, current, resistance, energy, and power using Ohms Law; construction and analysis of series, parallel, and series/parallel circuits; principles of magnetism and electromagnetism; alternating current and voltage; reactive components; construction and analysis of RC, RL, and RLC circuits; sinusoidal and other waveforms. Lecture/Lab: 2.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Electronics Technology (EET)

**EET 100 (3 credit hours)****Electrical Safety in the Workplace**

Introduces students to electrical hazards that are associated with working around electricity and the precautions that must be taken to ensure a safe working environment. Focuses on potential hazards that may be encountered on the job such as electric shock and arc flash. Covers personal protective equipment, Lock-Out-Tagout practices, tool safety, equipment safety, and guidelines for working in and around hazardous environments according to OSHA and the NFPA 70E. Lecture: 3.0 credits (45 contact hours)

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 110 (4 credit hours)****Voice & Data Installer Level I**

Introduces students to the telecommunication industry. Provides entry-level telecommunications cabling installers with the background, knowledge, and basic skills needed to function effectively on the job. Prepares students with little or no telecommunication installation experience. Lecture: 4 credits (75 contact hours).

**Pre-requisite:** Basic physics/electricity courses are recommended but not required.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EET 116 (3 credit hours)****Fiber Optics Systems**

Provides a technical level of understanding in the areas of networking connectivity, data communications concepts and communication protocols. Introduces students to communications and networking concepts including hardware, software, and transmission media; access methods and protocols; and network configurations area are addressed. Emphasizes local area networks, and installation of a basic network. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EET 110 with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 118 (3 credit hours)****Residential Network Wiring**

Provides students with the knowledge to design and install multimedia applications for residential structures; gain an understanding of industry-standards practices, codes, and ordinances that pertain to high-performance in-home systems. Introduces students to voice, data, security, video, audio, automation, control and entertainment systems, cable performance characteristics, and appropriate cabling media, connectors, blocks, jacks, panel, pathways and spaces. Prerequisite: EET 110 with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 119 (5 credit hours)****Basic Electricity**

Introduces basic electricity concepts applicable to AC and DC circuits pertinent to the electrical technology industry. Provides an in-depth study of Ohm's Law, series, parallel, and series-parallel circuit characteristics. Focuses on providing students with an overview of common electrical safety practices, AC generation, AC and DC Principles, magnetic principles, transformers, capacitors, inductors, and basic electrical testing equipment along with a focus on the construction, calculation, measurement, and troubleshooting of various AC and DC circuits by way of laboratory exercises and classroom lecture. Lecture/Lab: 5.0 credits (45 contact hours Lecture / 60 contact hours Lab)

**Pre-requisite:** MAT 55 or equivalent placement level or consent of program advisor(s).

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 127 (1 credit hours)****Electrical Technology Capstone**

Serves as the capstone course for the Electrical Technology degree program and all of its concentrations. Integrates prior learning outcomes into a single integrated learning experience. Includes an exit exam that all program graduates must take. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 148 (3 credit hours)****Electronic Drafting**

Presents drafting techniques applicable to electronics equipment, and provides a review of electrical/electronic symbols and the devices that the symbols represent. Layout and drafting for printed circuits are stressed. The focus is on producing final drawings from engineering sketches and from the actual layout of printed circuit boards. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**EET 150 (2 credit hours)****Transformers**

Focuses on the operation, installation and application of AC single-phase and three-phase transformers. Emphasizes the testing and maintaining transformer equipment, with safety integrated as a core component of the study. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 151.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 151 (1 credit hours)****Transformers Lab**

Focuses on the operation, installation and application of AC single-phase and three-phase transformers. Emphasizes the testing and maintaining transformer equipment, with safety integrated as a core component of the study. Pre-requisite (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Lab: 1.0 credit (30 contact hours).

**Co-requisite:** EET 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 154 (2 credit hours)****Electrical Construction I**

Introduces students to the materials and procedures used in construction wiring. Prerequisite: (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Lecture: 2.0 credits (30 contact hours).

**Co-requisite:** EET 155.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 155 (2 credit hours)****Electrical Construction I Lab**

Provides students hands-on experiences with electrical materials and equipment in construction wiring. Prerequisite: (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor (s). Laboratory: 2.0 credits (60 contact hours).

**Co-requisite:** EET 154.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 198 (2 credit hours)****Practicum**

Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Practicum Education program do not receive compensation for their work.) 2.0 credits (150 contact hours).

**Pre-requisite:** Consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** PCM: Practicum

**EET 199 (2 credit hours)****Cooperative Education Program**

Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Cooperative Education program receive compensation for their work.) Prerequisite: Consent of Electrical Technology program advisor(s). 2.0 credits (150 contact hours).

**Attributes:** Technical

**Components:** COP: Co-op

**EET 200 (2 credit hours)****Robotic Systems I**

Introduces students to the history, terminology, theory, and common applications of robotic systems. Provides instruction in basic robot programming techniques, file execution and manipulation, coordinate systems, and file maintenance. Focuses students on robotic system components and preventative maintenance tasks. Prepares students to identify safety devices and utilize safety procedures while working with robotic systems. Integrated Lecture/Lab: 2.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture



**EET 201 (2 credit hours)****Robotic Systems II**

Introduces students to advanced robot programming concepts used in manufacturing. Prepares students to work with various power systems used with a robotic system. Provides a basic introduction of concepts and techniques used to maintain electrical and mechanical robotic systems. Provides an introduction into vision systems used within a manufacturing environment. Prepares students to identify safety devices and utilize safety procedures while working with robotic systems. Integrated Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** EET 200 Robotic Systems I.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**EET 202 (2 credit hours)****Robotic Maintenance**

Introduces students to robotic maintenance commonly performed on robots in manufacturing. Prepares students to back up software, isolate all electrical and mechanical power. Prepares students to perform preventative maintenance procedures according to manufacturer specifications. Integrated Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** EET 201 Robotic Systems II OR IMT 200 Industrial Robotics and Robotic Maintenance.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**EET 203 (2 credit hours)****Robotic Vision Systems**

Introduces students to vision systems commonly used with robots in manufacturing environments. Prepares students to setup, calibrate, and utilize vision systems. Prepares students to master the robot, create tool and user frames used with the vision system and process, and program the robot to respond to vision results. Provides hands on applications of procedures and utilization of common vision systems found in industry. Integrated Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** EET 201 Robotic Systems II OR IMT 200 Industrial Robotics and Robotic Maintenance.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**EET 250 (4 credit hours)****National Electrical Code**

Emphasizes the importance of the National Electrical Code as it applies to electrical installations: electrical safety issues, prevention of fire due to the use of electrical energy, prevention of loss of life and property from the hazards that might arise from the use of electrical energy, and proper selection of electrical equipment for hazardous and non-hazardous environments. Provides a learning resource in the preparation for electrical licensing examinations. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** ELT 110 OR EET 119 with minimum grade of "C" or consent of Electrical Technology Program advisor(s).

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 252 (2 credit hours)****Electrical Construction II**

Expands the knowledge and skills needed to work in commercial and industrial construction wiring. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** Consent of Instructor or EET 154.

**Co-requisite:** EET 253.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 253 (2 credit hours)****Electrical Construction II Lab**

Provides hands-on experiences needed to work in commercial and industrial construction wiring. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** EET 252.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 254 (3 credit hours)****Electrical Construction**

Focuses on the study of materials and procedures and expands the knowledge and skills needed to work in commercial and industrial construction wiring. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (ELT 110 OR EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 255.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 255 (4 credit hours)****Electrical Construction Lab**

Provides hands-on experiences with electrical materials and equipment related to commercial and industrial construction wiring. Laboratory : 4 credits (120 contact hours).

**Pre-requisite:** (ELT 110 OR EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 254.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 264 (2 credit hours)****Rotating Machinery**

Focuses on the underlying principles of rotating electrical equipment including DC and AC motors and generating equipment construction, operating applications, and the maintenance of DC and AC motors and generating equipment. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** (ELT 110 OR EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 265.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 265 (2 credit hours)****Rotating Machinery Lab**

Focuses on the principles of operation, application and maintenance of single-phase and three-phase AC motors and AC alternators, DC motors, DC generators. Introduces students to the standards of the National Electrical Code and its use. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 264.

**Attributes:** Technical

**Components:** LAB: Laboratory



**EET 266 (3 credit hours)****Rotating Machinery and Transformers**

Focuses on the principles of operation and application of single-phase and three-phase AC transformers to include: analysis of voltage, current and power parameters and connection configurations. Gives an in-depth study of direct and alternating current rotating machinery that produces and utilizes electrical energy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (ELT 110 OR EET 119 with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 267.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 267 (3 credit hours)****Rotating Machinery and Transformers Lab**

Applies the principles of operation, application and maintenance of single-phase and three-phase AC transformers, motors and alternators, and DC motors and generators. Focuses on the compliance with current National Electric Code standards to insure safe installation methods. Lab: 3.0 credits (90 contact hours)

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 266.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 268 (3 credit hours)****Rotating Machinery Electrical Motor Controls I**

Focuses on the construction, operation and maintenance of DC motors and generators and AC motors and alternators. Addresses the diversity of control devices and applications used in industry today. Emphasizes the importance safety and electrical lockouts are also included. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 269.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 269 (4 credit hours)****Rotating Machinery and Motor Controls I Lab**

Provides practical experience in the use of control devices and their applications in industry today. Focuses on the construction, operation and maintenance of AC motors and alternators, and DC motors and generators. Emphasizes the importance of safety and electrical lockouts. Laboratory: 4.0 credits (120 contact hours). Lab: 4.0 credits (120 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 268.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 270 (2 credit hours)****Electrical Motor Controls I**

Addresses the diversity of control devices and applications used in industry today. Emphasizes the importance of safety and electrical lockouts. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 271.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 271 (2 credit hours)****Electrical Motor Controls I Lab**

Provides practical experience in the use of control devices and their applications in industry today. Emphasizes the importance of safety and electrical lockouts. Lab: 2.0 credit (60 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of the Electrical Technology program advisor(s).

**Co-requisite:** EET 270.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 272 (2 credit hours)****Electrical Motor Controls II**

Introduces advanced study of motor controls in industry. Focuses on solid state relays, hall effect sensors, proximity detectors and photo detectors. Provides "hands-on" instruction to include sketching, installing, and troubleshooting the following; three phase controls, variable speed drives using relays as well as solid state devices. Provides an introduction to the installation and programming of Programmable Logic Controllers. Lecture: 2.0 Credits (30 contact hours).

**Pre-requisite:** EET 270 OR EET 264 OR EET 268 with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 273.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 273 (2 credit hours)****Electrical Motor Controls II Lab**

Provides hands-on experience in advanced studies in electrical controls used in industry including three-phase motor control and variable speed control using solid state devices and Programmable Logic Controllers. Prerequisite: EET 271 OR EET 265 OR EET 269 with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Laboratory: 2.0 credits (60 contact hours).

**Co-requisite:** EET 272.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 274 (3 credit hours)****Electrical Motor Controls**

Addresses the diversity of control devices and applications used in industry today. Emphasizes the importance of safety and electrical lockouts. Focuses on the advanced study of motor controls in industry. Focuses on solid state relays, hall effect sensors, proximity detectors and photo detectors. Examines the sketching, installing and troubleshooting the following: three phase controls, variable speed drives, relays, solid state devices, and programmable controls. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 275.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 275 (4 credit hours)****Electrical Motor Controls Lab**

Provides practical experience in the use of control devices and their applications in industry today. Emphasizes the importance of safety and electrical lockouts. Provides hands-on experience in advanced studies in electrical controls used in industry including three-phase motor control and variable speed control using solid state devices and programmable controls. Lab: 4.0 credits (120 contact hours).

**Pre-requisite:** (ELT 110 or EET 119) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 274.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 276 (2 credit hours)****Programmable Logic Controllers**

Introduces principles and applications of programmable logic controllers including installation, logic fundamentals, and numbering systems; basic programming of inputs, outputs, timers, and counters, comparators, basic data manipulation, and safety circuits of industrial PLCs. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** EET 270 OR EET 268 OR EET 274 with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 277.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 277 (2 credit hours)****Programmable Logic Controllers Lab**

Provides practical applications of programmable logic controllers including installation, logic fundamentals, and numbering systems; basic programming of inputs, outputs, timers, and counters, comparators, basic data manipulation, and safety circuits of industrial. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** EET 271 OR EET 269 OR EET 275 with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 276.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 280 (4 credit hours)****Multi-Platform Programmable Logic Controllers**

Introduces students to multiple platforms of programmable logic controllers (PLC). Prepares students to wire, communicate with, program and troubleshoot multiple brands of PLCs. Introduces students to basic programming of inputs, outputs, internal relay, timers, counters, comparator, math and data manipulation instructions. Provides hands on lab application of multiple platforms of programmable logic controllers found in industry. Integrated Lecture/Lab: 4 credits (90 contact hours).

**Pre-requisite:** EET 276 and EET 277 with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**EET 281 (1 credit hours)****Special Problems I**

A course designed for the student who has demonstrated specific special needs. Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 283 (2 credit hours)****Special Problems II**

A course designed for the student who has demonstrated specific special needs. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 285 (3 credit hours)****Special Problems III**

A course designed for the student who has demonstrated specific special needs. Laboratory: 3 credits (135 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 286 (2 credit hours)****Programmable Logic Controllers II**

Focuses on sequencer instructions, shift registers, process control instructions, networking, communications, human to machine interfaces, and troubleshooting techniques used with programmable logic controllers. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** (EET 276) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 287.

**Attributes:** Technical

**Components:** LEC: Lecture

**EET 287 (2 credit hours)****Programmable Logic Controllers II Lab**

Provides hands on lab applications dealing with sequencers, shift registers, networks, communication software, human to machine interfaces, analog devices, and troubleshooting. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** (EET 277) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Co-requisite:** EET 286.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EET 290 (4 credit hours)****Troubleshooting Industrial Controls and Motors**

Introduces students to basic electrical troubleshooting concepts pertinent to the electrical technology industry. Provides an in-depth study of electrical troubleshooting using schematics, wiring diagrams, digital multi-meters, programmable logic controllers, and motor analyzers. Prepares students to learn how to troubleshoot common electrical faults using a multi-meter. Focuses primarily on providing students with an overview of common electrical faults and how to pinpoint them using a programmable logic controllers. Integrated Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** (EET 276 and EET 277) with a minimum grade of "C" or consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**EET 295 (4 credit hours)****Alternative Energy Photovoltaic and Wind Electrical Generations Systems**

Introduces students to the methods and equipment necessary for the installation and maintenances of photovoltaic and, wind electrical generation system. Covers the standards and requirements set forth by the National Electric Code and the National Association of Certified Energy Practitioners for alternative energy electrical generation systems. Lecture: 3 credits (45 contact hours). Lab: 1 credit (30 contact hours).

**Pre-requisite:** (ELT110 or EET119 and EET154 and EET155 and EET252 and EET253 or EET 254 and EET 255 and EET250) or electrical experience and consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EET 298 (1-8 credit hours)****Practicum**

Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Practicum do not receive compensation). This course may be taken for 1 - 8 credits.

**Pre-requisite:** Consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** PCM: Practicum

**EET 299 (1-8 credit hours)****Cooperative Education Program**

Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Cooperative Education program receive compensation for their work). This course may be taken for 1 - 8 credits.

**Pre-requisite:** Consent of Electrical Technology program advisor(s).

**Attributes:** Technical

**Components:** COP: Co-op

## Energy Systems (ESP)

**ESP 101 (3 credit hours)****Introduction to Energy Systems**

Introduces energy generating systems including solar, wind, bioenergy, geothermal, hydroelectric, hydrogen-based, petroleum-based, coal, and nuclear. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Energy Technologies (EGY)

**EGY 120 (4 credit hours)****Outside Plant Communications**

Introduces students to fiber optic communication systems and up-to-date fiber techniques including how to design, install, test and maintain fiber optic single mode networks. Emphasizes Single Mode fiber optic installation with the associated international standards, theory, and practices. Prepares the student to work with fiber optic splicing, testing and troubleshooting equipment that is found in the workplace. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 110 and ETT 110) or (electrical experience and consent of instructor).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EGY 170 (4 credit hours)****Energy Utility Technologies**

Introduces students to the technologies used in energy utility companies, including line maintenance, underground operations, substations and switchyards and transmission operations. Gives students the opportunity to climb a utility pole and conduct basic maneuvers. Addresses types of underground systems, substation and switchyard equipment and transmission structures. Emphasizes electrical, underground, line maintenance and transmission safety. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 110 and EET 150 and EET 151) or (electrical experience and consent of instructor).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EGY 220 (4 credit hours)****Energy Efficiency Electrical Controls**

Designed for Electrical Technology students and Apprentice, Journeyman, Master, and Contractor Electricians as a foundation into the studies of green technology relating to electrical energy. Focuses on the assessment of electrical energy usage in commercial buildings with the understanding that the electrical energy technician will install and maintain efficient electrical controls and equipment. Prepares students to assist in the design of efficient electrical energy systems under the supervision of a Certified Energy Manager or licensed Professional Engineer. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 110 and EET 154 and EET 155 and EET 252 and EET 253 and EET 250) or (electrical experience and consent of instructor).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EGY 230 (4 credit hours)****Solar / Photovoltaic Technologies**

Covers the design and installation of grid connected, stand-alone, and hybrid photovoltaic (PV) systems, and involves hands-on work with PV systems and equipment. Intended for electrical technology students, apprentices, contractors, electricians, and other practitioners, with an overall goal of developing "system knowledgeable" professionals to help ensure the safety and quality of PV system installations. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 110 and EET 154 and EET 155 and EET 252 and EET 253 and EET 250) or (electrical experience and consent of instructor).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EGY 240 (4 credit hours)****Energy Efficiency and Analysis**

Discusses the basic principles of how energy flows into and out of a residential building, using the "House as a System" approach. Develops the skills needed to perform a home energy audit. Gives students hands-on experiences with a blower door, thermal imaging camera as well as other auditing tools. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EGY 250 (4 credit hours)****Wind/ Turbine Technologies**

Introduces the theory and practices of wind power and how it is used and connected as a renewable energy source for the home, farm and business. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** ELT110 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Engineering & Electronics Technology (ELT)

**ELT 102 (2 credit hours)****Blueprint Reading**

A comprehensive study of current drafting standards and blueprint reading techniques are included. Topics include standard lines and symbols, sketching techniques, orthographic projection, auxiliary views, detail and assembly drawings, dimensions, tolerances, sectional views, title block information, machining, specifications, and specialized forms of engineering drawings. Lecture: 2.0 (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ELT 103 (3 credit hours)****Introduction to Engineering**

Provides an introduction to the engineering profession, engineering disciplines, and technology. Emphasizes a problem-solving approach, engineering design process, and team projects. Includes an introduction to engineering graphics. Intended for students of all majors. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre- or co-requisite:** Current Placement Scores for College Level Quantitative Reasoning or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ELT 106 (2 credit hours)****Mechanical Engineering Graphics**

Includes basic technical sketching and working drawings as applied to mechanical engineering. Students will create or analyze multi-view drawings, symbols, schematics, and sketches typical of mechanical graphics drawings. Lab: 2.0 credits ( 90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**ELT 107 (4 credit hours)****Computer Applications for Technicians**

Introduces computer applications commonly used in technical occupations. Covers circuit analysis, computational, analytical, and other software packages. Lecture: 1.0 credit (15 contact hours). Lab: 3 credits (90 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 110 (5 credit hours)****Circuits I**

Introduces application of basic DC and AC circuits, including circuit analysis techniques with discussion of introductory magnetism and transformer principles. Emphasizes design, construction, and troubleshooting of simple DC and AC circuits in laboratory exercises. Lecture: 3 credits (45 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** MAT 61 or equivalent placement level or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 114 (5 credit hours)****Circuits II**

Addresses theory and application of complex alternating current and direct current circuits. Emphasizes impedance, reactance, power and electrical energy, electrical measurement instruments, and circuit analysis. Lecture: 3.0 credits (45 contact hours). Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** (ELT 110 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 118 (3 credit hours)****Computer Numerical Control**

Introduces computer numerical control technology, covering programming and metal removal techniques. Includes topics of controllable machine components, tools, programmable functions, control system components, physics of metal cutting, metal cutting data, coordinate systems, NC related dimensioning, and CNC programming. Lecture: 2.0 credits (30 contact hours), Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 120 (3 credit hours)****Digital I**

Introduces theory and application of digital logic methods. Includes Boolean algebra, combinational logic theory, sequential circuits, number systems and codes, and design and troubleshooting of digital logic circuits. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** MAT 61 or equivalent placement level or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 122 (3 credit hours)****Mechanical Power Transmission Systems**

Introduces industrial mechanical systems and devices, which are commonly associated with Millwright and Industrial Maintenance functions. Includes topics of belt drives, gear drives, chain drives, couplings, packings/seals, bearings, mechanical fasteners, pipe fittings, pumps, and valves. Lecture: 3.0 credit (45 contact hours).

**Co-requisite:** ELT 124.

**Attributes:** Technical

**Components:** LEC: Lecture



**ELT 124 (1 credit hours)****Mechanical Power Transmission Systems Lab**

Introduces mechanical systems and devices common to the Millwright and Industrial Maintenance trades. Includes topics of belt drives, gear drives, chain drives, couplings, packings and seals, bearings, mechanical fasteners, pipe fittings, pumps, and valves. Lab: 1.0 credit (30 contact hours).

**Co-requisite:** ELT 122.

**Attributes:** Technical

**Components:** LAB: Laboratory

**ELT 201 (4 credit hours)****Statics and Strength of Materials**

Introduces static equilibrium involving forces, moments, couples, and equivalent systems. Explores stresses, strains and deflections associated with trusses, frames, beams, columns, and joints. These devices are subjected to various loadings and environments, and are made of standard construction materials. Lecture: 2.0 credits (30 contact hours), Lab: 2.0 credits (30 contact hours).

**Pre-requisite:** (MAT 150 and MAT 155 or MAT 110) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 210 (4 credit hours)****Devices I**

Provides basic theory and application of semi-conductor devices. Emphasizes design, construction and troubleshooting of diode and transistor circuits, amplifiers and power supplies. Lecture: 3.0 credits (45 contact hours), Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 110 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 214 (4 credit hours)****Devices II**

Covers theory and application of advanced semiconductor devices. Emphasizes thyristors, FETs, integrated circuits, and other devices as applied to audio frequency amplifiers, feedback circuits, modulators, detectors, and other basic electronic circuits. Lecture: 3.0 credits (45 contact hours), Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 210 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 220 (3 credit hours)****Digital II**

Provides theory and application of advanced digital logic methods. Includes small and medium scale integrated circuits logic families, interfacing techniques, arithmetic circuitry, programmable devices, and an introduction to microprocessors. Lecture: 2.0 credits (30 contact hours), Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (ELT 120 with a grade of C or greater) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 222 (3 credit hours)****Mechanics of Telephony**

Covers history of the telephone and regulations that impact the telecommunications industry, analog and digital transmission mediums, and the evolution of wireless and digital services. Utilizes the graduated height method for developing climbing skills and confidence. Lecture: 2.0 credits (30 contact hours), Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 224 (3 credit hours)****Basic Telecommunications Installation and Maintenance**

Provides an overview of concepts needed to complete the duties of a telecommunications service technician and provide the foundational basic skills and knowledge required to effectively perform the installation and maintenance job duties and functions. Introduces fiber optic transmissions and cable repair. Lecture: 1.0 credit (15 contact hours), Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 232 (3 credit hours)****Computer Software Maintenance**

Includes maintenance of the personal computer with an emphasis on installation, upgrading, and configuration of the operating system. Covers memory management, boot sequences, printing subsystem, application software and networking with troubleshooting as a main focal point including viruses. When combined with ELT 234, this course will help prepare students to take CompTIA A+ certification tests. Lecture: 2.0 credits (30 contact hours), Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** (Computer literacy course or demonstrate competency) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 234 (3 credit hours)****Computer Hardware Maintenance**

Covers maintenance of the personal computer with an emphasis on installation, upgrading, and configuration of computer hardware. Covers network and Internet access, internal addressing, architecture, interrupts complete PC construction and basic troubleshooting. When combined with ELT 232, this course will help prepare students to take CompTIA A+ certification tests. Lecture: 2.0 credits (30 contact hours), Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (Computer literacy course or demonstrate competency) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 240 (6 credit hours)****Communications Electronics**

Provides the theory of AM and FM, RF communications, transmission, reception, multiplexing, and modern data communications. Lecture: 4.0 credits (60 contact hours), Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** (ELT 220 and ELT 214) or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**ELT 244 (4 credit hours)****Electrical Machinery and Controls**

Covers the study of theory and utilization of electrical motors and generators, including AC and DC motors and drives. Includes theory and utilization of limit switches, solenoids, relays, contactors, and solid state devices in control circuits. Provides application of digital and analog control techniques, ladder logic, and programming techniques to industrial and manufacturing processes. Lecture: 3.0 credits (45 contact hours) Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 250 (4 credit hours)****Programmable Logic Controllers**

Covers the study of Programmable Logic Controllers with an emphasis on the function and use of PLCs in an industrial environment. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** ELT 244 or Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 260 (5 credit hours)****Robotic and Industrial Automation**

Introduces theory of robots including terminology, components, and basic programming. Provides theory and application of servo and non-servo robots. Includes robot types, controllers, manipulators, and basic robotic programming. Provides the theory and operation of flexible and computer-integrated manufacturing and control systems. Provides the opportunity to develop, set up work cells, and integrate the work cells into a total computer-integrated manufacturing system at a beginning level. Lecture: 3.0 credits (45 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 261 (3 credit hours)****Instrumentation and Measurements**

Provides a study of instruments used by the mechanical engineering technician and training in the techniques of their use. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ELT 264 (4 credit hours)****Mechanical Design**

Covers study techniques associated with the design of machine elements, including structural members subjected to combined stresses resulting from shear or torsion coupled with axial and bending loadings. Includes material treatments, failure theories, failure prevention, and steady and variable (fatigue) elements, including rotating shafts, pressure vessels, power screws, and attachment schemes. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** (ELT 201 and PHY 211) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ELT 265 (3 credit hours)****Applied Fluid Power**

Covers the fundamental types of hydraulic and pneumatic devices and circuits used in industry. Includes basic fluid mechanics, industrial hydraulic components, pneumatic components, circuit design and analysis, electrical control of fluid power circuits, and fluid power maintenance and safety. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 289 (1 credit hours)****Engineering and Electronics Technology Capstone**

Serves as the capstone course for the Engineering and Electronics Technology degree program and all of its concentrations. Integrates prior learning outcomes into a single integrated learning experience. Includes an exit exam that all program graduates must take. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** (ELT 120 and ELT 210) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**ELT 290 (1-4 credit hours)****Selected Topics in Engineering Technology: (Topic)**

Offers selected topics in engineering technology, due to rapidly changing technology or in response to local needs. Includes various topics semester to semester at the discretion of the instructor. Course may be repeated with different topics to a maximum of eight credit hours. Lecture: 1.0-4.0 credit hours (15-60 contact hours); Laboratory: 0-3.0 credit hours (0-45 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ELT 295 (1-2 credit hours)****Independent Problems**

Provides an objective for independent study for engineering and electronics technology students using a problem or special project approved by the instructor. This course may be repeated twice or to a maximum of four credit hours. Lecture: 1.0 - 2.0 credits (15-30 contact hours). Laboratory: 1.0 - 2.0 (30-60 contact hours)

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Engineering (EGR)

**EGR 101U (1 credit hours)****Engineering Exploration I**

Engineering Exploration I introduces students to the engineering and computer science professions, College of Engineering degree programs, and opportunities for career path exploration. Topics and assignments include study skills, team development, ethics, problem solving and basic engineering tools for modeling, analysis and visualization. Open to students enrolled in the College of Engineering. Students who received credit for EGR 112 are not eligible for EGR 101. Students who received credit for EGR 112 are not eligible for EGR 101. Lecture: 1.0 credit (30 contact hours)

**Pre-requisite:** Enrolled in the College of Engineering or MA ACT of at least 23 or equivalent.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## Engineering Mechanics (EM)

### EM 221 (3 credit hours)

#### Statics

Study of forces on bodies at rest. Vector algebra; study of force systems; equivalent force systems; distributed forces; internal forces; principles of equilibrium; application to trusses, frames and beams; and friction.

Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** MA 213.

**Attributes:** Other

**Components:** LEC: Lecture

## Engineering Technology (ET)

### ET 113 (3 credit hours)

#### Laser Optics Components

The student will be introduced to an overview of the components commonly found in lasers and their associated systems. Emphasis will be placed on using calculators to solve basic problems associated with these components and building the student's intuition on the effects of individual components and how they fit into the system. The lab will be used to verify findings in class and to teach handling, mounting, cleaning, and alignment of optical components. Lecture: 2 hours; Laboratory: 2 hours.

**Pre-requisite:** MT 120 or equivalent.

**Components:** LAB: Laboratory, LEC: Lecture

## English (ENG)

### ENG 100 (2 credit hours)

#### English Workshop

Provides parallel and supplemental review of English skills needed for students with English placement scores at the corequisite level who are enrolled in ENG 101. If students withdraw from ENG 100, they must also withdraw from ENG 101. Credit cannot be received by special exam. Lecture: 2 credits (30 contact hours).

**Co-requisite:** ENG 101.

**Attributes:** Other, Supplemental English/Writing

**Components:** LEC: Lecture

### ENG 101 (3 credit hours)

#### Writing I

Focuses on academic writing. Provides instruction in drafting and revising essays that express ideas in Standard English, including reading critically, thinking logically, responding to texts, addressing specific audiences, researching and documenting sources. Includes review of grammar, mechanics and usage. Notes: (a) credit not available by special examination; (b) English 101 and 102 may not be taken concurrently; (c) AP credit in the English Language and Composition category for ENG 101 awarded as indicated by AP scoring chart in current KCTCS catalog. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement Policy.

**Attributes:** WC - Written Communication, Credit not permitted via STEP exam, Course Also Offered in Modules

**Components:** LEC: Lecture

### ENG 102 (3 credit hours)

#### Writing II

Emphasizes argumentative writing. Provides further instruction in drafting and systematically revising essays that express ideas in Standard English. Includes continued instruction and practice in reading critically, thinking logically, responding to texts, addressing specific audiences, and researching and documenting credible academic sources.

NOTE: Credit is not available by special examination. Lecture: 3 credits (45 contact hours)

**Pre-requisite:** ENG 101.

**Attributes:** WC - Written Communication, Course Also Offered in Modules

**Components:** LEC: Lecture

### ENG 105 (3 credit hours)

#### Writing: An Accelerated Course

Combines the content of ENG 101 and ENG 102 in an intensive course emphasizing argumentation and library research and fulfills the writing/accessing information requirements. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACT English score of 25 or COMPASS English score of 95 AND ACT Reading score of 20 or COMPASS reading score of 90.

**Attributes:** WC - Written Communication

**Components:** LEC: Lecture

### ENG 107U (3 credit hours)

#### Writing Craft: Introduction to Imaginative Writing

An introduction to the genres and craft of imaginative writing, including fiction, nonfiction, and poetry. Students will study and practice writing in various modes through composition, peer critique, and research. Lecture and workshop. Offers credit for the UK Core requirement in Intellectual Inquiry in Arts & Creativity. Fulfills ENG pre-major requirement and provides ENG minor credit. Lecture: 3.0 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

### ENG 135 (3 credit hours)

#### Greek and Roman Mythology in Translation

Examines mythic literature, primarily Greek and Roman texts. Includes selections from primary works such as Works and Days, The Iliad, The Odyssey, Greek tragedy, The Metamorphoses and The Aeneid, with attention to their influence on later literature and culture. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** English ACT 18 and Reading ACT 20 OR completion of transitional reading and writing.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

### ENG 161 (3 credit hours)

#### Introduction to Literature

Introduces students to an analytical rather than historical approach to literature in order to deepen students' insight into the nature and purpose of literature. Lecture: 3 credits (45 contact hours)

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 190 (3 credit hours)****Introduction to Dystopian Literature and Film**

Analyzes literary texts and films within the Dystopian genre; examines the continuing relevance of the genre and its predictive nature; explores the social, political, and historical themes in literature and film from early works of the genre to contemporary; considers human nature in response to adversity; connects the genre to ongoing global concerns such as political systems, human rights, environmental change, and technological development. Lecture: 3.0 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 203 (3 credit hours)****Business Writing**

Provides instruction and experience in writing for business, industry and government. Emphasizes clarity, conciseness, and effectiveness in preparing letters, memos, and reports for specific audiences. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** [ENG 101 and (ENG 102 or Consent of Instructor)] or ENG 105.

**Attributes:** Other, Course Also Offered in Modules

**Components:** LEC: Lecture

**ENG 204 (3 credit hours)****Technical Writing**

Provides instruction and experience in writing for science and technology. Emphasizes clarity, conciseness, and effectiveness in preparing instructions, proposals, and lab reports for specific audiences. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** [ENG 101 and (ENG 102 or Consent of Instructor)] or ENG 105.

**Attributes:** Other

**Components:** LEC: Lecture

**ENG 207 (3 credit hours)****Creative Writing: (Subtitle Required)**

Provides instruction for beginners in the craft of writing, teaching students how to revise work in progress. Involves practice in aspects of craft and promotes experimentation with different forms, subjects, and approaches; outside reading provides models and inspiration. May be repeated under different subtitle to a maximum of six credit hours. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Other

**Components:** LEC: Lecture

**ENG 208 (3 credit hours)****Creative Writing: Short Story Workshop**

Provides students with guidance in the craft of writing short fiction, how to read critically and how to revise work in progress. Includes practice and experimentation with forms, subjects, and approaches to short stories. Outside reading provides models and inspiration. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Other

**Components:** LEC: Lecture

**ENG 221 (3 credit hours)****Survey of English Literature I**

Acquaints students with significant texts in English literature from the Middle Ages to the early 17th Century. Focuses on the literature in its social, political, and cultural contexts. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 222 (3 credit hours)****Survey of English Literature II**

Covers the late 17th Century through the present with emphasis on important writers and cultural backgrounds. Focuses on social, political, and cultural contexts. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 230 (3 credit hours)****Literature and Theme (subtitle required)**

Introduces students to close reading and argumentative writing about literature, in relation to a significant theme. Examines selected texts revolving around a single theme, teaching students how to relate texts to contexts, to read closely, and to use basic literary terms and concepts. Considers student writing, particularly devising a thesis, crafting an argument, and learning how to use supporting evidence. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 231 (3 credit hours)****Literature and Genre (Subtitle required)**

Explores one or two different literary forms or genres, i.e. the formal categories into which literary works are placed, including the conventions of each genre and related sub-genres. Considers student writing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 232 (3 credit hours)****Literature and Place (Subtitle required)**

Explores a number of selected literary texts with special attention to the author's connection to place and how the author's sense of place influences representations of experience. Considers student writing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 233 (3 credit hours)****Literature and Identities (Subtitle required)**

Explores a number of selected literary texts, with special attention to the construction of personal, ethnic, racial, or national identity and considers how race, class, sexuality, and/or nationality influence representations of experience. Includes attention to student writing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 234 (3 credit hours)****Introduction to Women's Literature**

Introduces students to the rich body of women's writing. Explores common and differing themes, attitudes, cultural norms, and gender identity evident in multiethnic, diverse societies through analysis and discussion of texts by women writers. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 251 (3 credit hours)****Survey of American Literature I**

An analysis of significant texts in U.S. literature from the Colonial era to the Civil War focusing on social, political, and cultural contexts. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 252 (3 credit hours)****Survey of American Literature II**

An analysis of significant texts in U.S. literature from the post-Civil War era to the present focusing on its social, political, and cultural contexts. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 261 (3 credit hours)****Survey of Western Literature from the Greeks Through the Renaissance**

Studies the works of major Western authors from the Bible and Ancient Greek literature through the Renaissance. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 262 (3 credit hours)****Survey of Western Literature from 1660 to the Present**

Studies the works by major Western authors from mid-17th century to the present. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 264 (3 credit hours)****Major Black Writers**

Provides a cross-cultural and historical approach to written and oral works by major Black authors of Africa, the Caribbean, and the United States. Includes writers such as Chinua Achebe (Africa), Wilson Harris (Caribbean), and Toni Morrison (USA). Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 270 (3 credit hours)****The Old Testament as Literature**

Surveys the major types of Old Testament literature in English translation. Examines historical backgrounds while emphasizing careful analysis of literary forms and techniques. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 271 (3 credit hours)****The New Testament as Literature**

Surveys the major types of New Testament literature in English translation. Examines historical backgrounds while emphasizing careful analysis of literacy forms and technique. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 281 (3 credit hours)****Introduction to Film**

Introduces the study of movies as a narrative art and a cultural document. Requires viewing of films outside of class. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 282 (3 credit hours)****International Film Studies**

Enhances student awareness of how cinema has been used as a multicultural tool for observing/analyzing various aspects of a broad range of societies. Includes critical analysis and interpretation of films from various cultures. Explores the films' countries of origin and the cinematic impacts upon the society and the world. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**ENG 299 (1-3 credit hours)****Special Topics in English**

Examines selected topics in English. Includes, but not limited to, individual authors, specified genres, and defined eras. Lecture: 1 - 3 credits (15-45 contact hours).

**Pre-requisite:** ENG 101 or consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**ENG 1011 (0.75 credit hours)****Writing a Personal Essay**

Focuses on academic writing. Provides instruction in reading critically, thinking logically, and responding to texts as a means of planning, drafting and revising essays that express thoroughly developed ideas in Standard English. Lecture: 0.75 credits (11.25 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement Policy at College Readiness Level.

**Components:** LEC: Lecture

**ENG 1012 (0.75 credit hours)****Writing a Profile Essay**

Focuses on academic writing. Provides instruction and practice in drafting, revising and editing essays which address specific audiences and enlist Standard English. Lecture: 0.75 credits (11.25 contact hours)

**Pre-requisite:** ENG 1011.

**Components:** LEC: Lecture

**ENG 1013 (0.75 credit hours)****Writing to Persuade**

Focuses on academic writing. Provides review and instruction in formal academic writing conventions, at the work, sentence, paragraph and essay levels. Lecture: 0.75 credits (11.25 contact hours)

**Pre-requisite:** ENG 1012.

**Components:** LEC: Lecture



**ENG 1014 (0.75 credit hours)****Writing with Sources**

Focuses on academic writing. Provides instruction in reading critically, thinking logically, responding to texts, addressing specific audiences, researching and documenting sources. Lecture : 0.75 credits (11.25 contact hours)

**Pre-requisite:** ENG 1013.

**Components:** LEC: Lecture

**ENG 1021 (1 credit hours)****The Language of Argument**

Emphasizes argumentative writing. Provides further instruction in argumentation strategies and concepts, leading to the planning and drafting of a preliminary argumentative essay. Lecture 1.0 credits (15 contact hours)

**Pre-requisite:** ENG 101 or ENG 1014.

**Components:** LEC: Lecture

**ENG 1022 (1 credit hours)****Argument Style and Design**

Emphasizes argumentative writing. Provides instruction and practice in the primary elements of academic writing style, including word choice, evidence selection and organization. Lecture: 1 credit (15 contact hours)

**Pre-requisite:** ENG 1021.

**Components:** LEC: Lecture

**ENG 1023 (1 credit hours)****Research and Argument**

Emphasizes argumentative writing. Provides instruction in researching, proposing and revising an argumentative position, gathering and synthesizing research findings in support and documenting sources appropriately. Lecture: 1 credit (15 contact hours)

**Pre-requisite:** ENG 1022.

**Components:** LEC: Lecture

**ENG 2031 (1 credit hours)****Business Writing Basics**

Introduces basic business writing concepts and forms to build a foundation for further study. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** [ENG 101 and (ENG 102 or Consent of Instructor)] or ENG 105.

**Components:** LEC: Lecture

**ENG 2032 (1 credit hours)****Specialized Business Messages**

Enhances students' skills in business writing through exploration of specialized business messages and modes, including writing for job search, technology-enabled writing, and writing for oral delivery. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** ENG 2031.

**Components:** LEC: Lecture

**ENG 2033 (1 credit hours)****Reports and Proposals**

Emphasizes lengthy and complex business messages, specifically researching for and writing business reports and business proposals. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** ENG 2032.

**Components:** LEC: Lecture

## English as a Second Language (ESL)

**ESL 11 (4 credit hours)****Beginning Listening and Speaking**

High-beginning level students will improve the ability to speak and understand English in simple everyday and academic situations. The course will provide practice in pronunciation and basic oral communication functions. Beginning academic listening and speaking skills will also be covered. Students will be recommended to this course based on the ESL placement examination. Lecture: 4 credits (60 contact hours).

**Attributes:** Developmental/Remdial Learning Skills

**Components:** LEC: Lecture

**ESL 31 (3 credit hours)****Beginning Conversation for Non-Native English Speakers**

Beginning level ESL students will learn basic conversation and practice basic sounds and intonation patterns. Lecture: 3 credits (45 contact hours).

**Attributes:** Developmental/Remdial Learning Skills, Course Also Offered in Modules

**Components:** LEC: Lecture

**ESL 51 (3 credit hours)****Introduction to College Reading for Non-Native English Speakers**

Beginning-level students will acquire or strengthen fundamental reading skills and expand vocabulary as they interact with level-appropriate texts. Lecture: 3 credits (45 contact hours).

**Attributes:** Remedial - Reading

**Components:** LEC: Lecture

**ESL 52 (3 credit hours)****Improved College Reading for Low-Intermediate Non-native English Speakers**

Intermediate-level students will review fundamental reading skills, learn and practice higher order reading skills, expand vocabulary and increase reading efficiency as they interact with level-appropriate texts. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ESL 51.

**Attributes:** Remedial - Reading

**Components:** LEC: Lecture

**ESL 53 (3 credit hours)****High-Intermediate Reading for Non-Native English Speakers**

High-intermediate level ESL students will master fundamental reading skills. They will be introduced to a variety of genres, such as newspaper articles and essays, poems, short stories, charts, graphs and many other. In addition, this course will foster cultural awareness, understanding and interaction. Through the readings and activities introduced in the course students will engage in meaningful dialogue, and in the process, refine their English skills. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ESL 52 or placement test.

**Attributes:** Remedial - Reading

**Components:** LEC: Lecture



**ESL 63 (4 credit hours)****Foundations of College Writing III for Non-Native English Speakers**

ESL 63 is designed to help students prepare for ENG 101. High-intermediate level ESL students continue to work on the writing process, editorial improvement and critical reading. Grammar instruction includes advanced grammatical points, such as modal auxiliaries, gerunds, infinitives, adjective and noun clauses. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** ESL 62 or placement test.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 71 (3 credit hours)****College Writing I for Non-Native Speakers**

Introduces writing modes, including description, narration, process, and persuasion; presents methods of pre-writing; emphasizes development of thesis statements, topic support, and organization; describes basic concepts of verb tense and syntax. Credit is not given to students who have received credit for ESL 61. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** Placement According to KCTCS Assessment and Placement Policy.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 72 (3 credit hours)****College Writing II for Non-Native Speakers**

Introduces writing modes, including description, narration, comparison and contrast, cause and effect, process, and persuasion; presents methods of pre-writing; emphasizes development of thesis statements, topic support, and organization; short essay organization is emphasized. A student cannot receive credit for both ESL 62 and ESL 72. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Currently appropriate assessment scores and a writing sample or completion of ESL 71.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 81 (3 credit hours)****College Grammar I for Non-Native Speakers**

Introduces basic verb tenses, formation of questions, modals, clauses, and parts of speech to non-native speakers of English. Incorporates instructional methods that are designed for non-native speakers of English. Credit is not given to students who have received credit for ESL 61. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** Placement According to KCTCS Assessment and Placement Policy.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 82 (3 credit hours)****College Grammar II for Non-Native Speakers**

Introduces intermediate-level verb tenses, formation of questions, modal verbs, clauses, count and non-count nouns, and parts of speech to non-native speakers of English. Incorporates instructional methods that are designed for non-native speakers of English. A student cannot receive credit for both ESL 82 and ESL 62. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Currently appropriate assessment scores or completion of ESL 81.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 90 (4 credit hours)****Beginning Writing**

High-beginning level ESL students will learn composition skills by receiving instruction in the following: the writing process, organization, sentence development, paragraph writing, and editing. Basic instruction in grammar provided. Students will be recommended to this course based on the ESL placement examination. Lecture: 4 credits (60 contact hours).

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 91 (4 credit hours)****Intermediate Writing for Non-Native English Speakers**

Low-intermediate level ESL students will enhance their composition skills by receiving instruction in the following: the writing process, organization, multi-paragraph writings, editing, and critical reading. Basic instruction in grammar provided. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** placement test.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

**ESL 92 (4 credit hours)****Advanced Writing for Non-Native English Speakers**

ESL 92 is designed to help students prepare for ENG 101. High-intermediate level ESL students continue to work on the writing process, editorial improvement, and critical reading. Students will be introduced to documenting sources. Grammar instruction includes advanced grammatical points. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** ESL 91 or placement test.

**Attributes:** Remedial - English and Writing, Due to Inactivity

**Components:** LEC: Lecture

**ESL 100U (3 credit hours)****Listening for Academic Purposes**

This course cultivates skills to improve academic listening performance for non-native speakers of English enrolled in American university classes. Special attention is given to lecture styles, note-taking, interpersonal communication skills, research projects and presentations. This course is designed to raise students listening skills so they can participate in academic settings with competencies similar to their native peers. Lecture: 3 credits.

**Attributes:** Enrichment ESL, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**ESL 110U (3 credit hours)****Speaking for Academic Purposes**

This course cultivates skills to improve academic speaking performance for non-native speakers of English enrolled in American university classes. Special attention is given to effective academic presentations, interpersonal communication skills, pronunciation and accent. This course is designed to raise students' speaking skills so they can participate in academic settings with competencies similar to their native-speaker peers. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** KCTCS assessment instrument scores as shown in Mandatory Placement policy.

**Attributes:** Enrichment ESL, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**ESL 120U (3 credit hours)****Reading for Academic Purposes**

This course cultivates skills to improve academic reading performance for non-native speakers of English enrolled in American university classes. Special attention is given to cross-disciplinary academic reading, reading rates and speeds, effective research methods, documentation and essay exams skills. This course is designed to raise students' reading skills so they can participate in academic settings with competencies similar to their native-speaker peers. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** KCTCS Assessment instrument scores as shown in Mandatory Placement policy.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**ESL 130U (3 credit hours)****Writing for Academic Purposes**

This course cultivates skills to improve academic writing performance for non-native speakers of English enrolled in American university classes. Special attention is given to cross-disciplinary research, collaboration, the writing process, content organization and development, editing and proofreading. This course is designed to raise students' writing skills so they can participate in academic settings with competencies similar to their native-speaker peers. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** KCTCS assessment instrument scores as shown in Mandatory Placement policy.

**Attributes:** Enrichment ESL, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## English Composition (ENC)

**ENC 90 (3 credit hours)****Foundations of College Writing I**

Introduces students to writing as a process with an emphasis on paragraph-length assignments and writing in response to reading. Stresses basic conventions of standard English as these apply to students' own work as well as the use of technology to produce and share writing. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Placement by KCTCS assessment and placement policy.

**Attributes:** Remedial - English and Writing, Course Also Offered in Modules

**Components:** LEC: Lecture

**ENC 91 (3 credit hours)****Foundations of College Writing II**

Applies writing as a process with instruction in intermediate writing skills and technology. Stresses organization, idea development through critical thinking, and editorial improvement through multi-paragraph writings. Introduces basic research and documentation through writing in response to reading. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement policy.

**Attributes:** Remedial - English and Writing, Course Also Offered in Modules

**Components:** LEC: Lecture

**ENC 96 (4 credit hours)****Introduction to College Writing**

Introduces and applies writing as a process, beginning with basic writing skills and paragraph length assignments and moving toward intermediate writing skills and multi-paragraph assignments. Stresses application of basic conventions of standard English. Emphasizes organization, topic development through critical thinking, editorial improvement through systematic revision, and the use of technology to produce and share writing. Introduces basic research and documentation through writing in response to reading. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement Policy.

**Attributes:** Remedial - English and Writing

**Components:** LEC: Lecture

## Environmental Science Technology (EST)

**EST 140 (3 credit hours)****Introduction to Ecology**

Introduces basic concepts and current applications of ecology relevant to environmental issues. Emphasizes relationships between organisms and the environment; influencing factors affecting distribution and abundance; population structure and regulation; energy flow and nutrient cycling through the environment; and development, structure, and response to distribution of organismal communities. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**EST 141 (1 credit hours)****Introduction to Ecology Laboratory**

Reinforces concepts covered in EST 140 Introduction to Ecology and provides activities to apply those concepts to real life situations. Examines relationships between organisms and the environment; influencing factors affecting distribution and abundance; population structure and regulation; energy flow and nutrient cycling through the environment; and development, structure, and response to distribution of organismal communities. Laboratory: 1 credit (30 contact hours).

**Pre- or co-requisite:** EST 140.

**Components:** LAB: Laboratory

**EST 150 (4 credit hours)****Introductory Ecology**

Introduces basic concepts and current applications of ecology relevant to environmental issues. Emphasizes relationships between organisms and the environment; influencing factors affecting distribution and abundance; population structure and regulation; energy flow and nutrient cycling through the environment; and, development, structure, and response to distribution of organismal communities. Includes weekly laboratories to provide hands-on field experiences to reinforce concepts learned in lecture. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (30 contact hours).

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**EST 160 (3 credit hours)****Hydrological Geology**

This course provides an introduction to geology and hydrology with an emphasis on understanding natural processes and the effects of human activities. Major topics covered include: plate tectonics; formation and classification of rocks and minerals; the processes affecting the hydrologic cycle; soil formation and classification; subsurface geology and groundwater movement; stream formation and flow; floods; and human impacts to stream hydrology and morphology. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**EST 161 (1 credit hours)****Hydrologic Geology Lab**

Reinforces concepts covered in EST 160 Hydrologic Geology and provides activities to apply those concepts to real life situations. Includes mineral and rock identification, map interpretation, groundwater protection, erosion and sediment control, stream dynamics and restoration. Lab 1 credit (30 contact hours).

**Pre- or co-requisite:** If yes, list: EST 160 Hydrologic Geology or approval of the Environmental Science Technology Program Coordinator.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**EST 170 (2 credit hours)****Environmental Sampling Laboratory**

A laboratory course which provides the fundamentals in evaluating and designing sampling approaches for different situations and different media. The course will provide students with field experience in sampling soil, surface water, groundwater, and benthic invertebrates. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** EST 150 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EST 220 (3 credit hours)****Pollution of Aquatic Ecosystems**

Examines freshwater ecosystems and typical aquatic pollutants. Discussion topics focus on the sources, transport, fate, and effects of common pollutants such as domestic wastewater, metals, acidity, and pesticides. Explores methods to minimize or eliminate the sources and effects of pollutants. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** (EST 140 or EST 150) and EST 160, CHE 170, and CHE 175 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EST 230 (2 credit hours)****Aquatic Chemistry Laboratory**

Provides focused study on the chemistry of water and provides students with laboratory experience in analyzing surface, ground, and drinking waters for a variety of chemical constituents. Laboratory: 2 credits (60 contact hours).

**Pre- or co-requisite:** CHE 170, CHE 175, and EST 220.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EST 240 (4 credit hours)****Sources and Effects of Air Pollution**

Introduces the study of ambient and indoor air pollution with an emphasis on sources, dispersion, and health and welfare effects of the major pollutants. Explores regulatory and engineering controls of stationary and mobile sources. Provides laboratory experience with sampling and analysis of air pollutants. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre- or co-requisite:** [(EST 140 and EST 141) or EST 150] and Digital Literacy Course (OST 105 or CAD 100 or IMD 100 or CIT 105) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**EST 250 (3 credit hours)****Solid and Hazardous Waste Management**

This course examines methods of managing solid and hazardous waste, with an emphasis on pollution prevention. Topics covered include relevant legislation, recycling, incineration, landfill operations, management of radioactive waste, remediation of waste sites and site worker health and safety. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** EST 150 and EST 160, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EST 260 (2 credit hours)****Environmental Analysis Laboratory**

Introduces the fundamentals of analyzing environmental media. Provide students with laboratory experience in analyzing soil, surface water, groundwater, air and microbial samples. Laboratory: 2 credits (60 contact hours).

**Pre- or co-requisite:** CHE 170, CHE 175, EST 170.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EST 270 (3 credit hours)****Environmental Law and Regulation**

This course is structured to provide the student with a basic understanding of major current federal and state environmental legislation and regulation with an emphasis on those portions that affect the regulated community. The course will also include an examination of the role of common law and the branches of government in environmental protection. Pre-requisite or concurrent: EST 220, EST 240, and EST 250 or consent of instructor. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EST 290 (2 credit hours)****Applied Projects in Environmental Science Technology**

Outlines varies as determined by project and instructor. Lecture: 1 credit (15 contact hours). Lab: 1 credit (30 contact hours).

**Pre-requisite:** Consent of EST Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**EST 299 (1-3 credit hours)****Selected Topics in Environmental Science Technology**

A special project or experience in Environmental Science will be selected to enhance core material in the Environmental Science Technology program. It provides the student an opportunity for independent study or specialized instruction as approved by an instructor. This course may be repeated to a maximum of 6 hours. Lecture: 1-3 credits (15-45 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Environmental Technology (ENV)

**ENV 110 (4 credit hours)****Introduction to Environmental Technology**

Introduction to Environmental Technology provides a background in the historical and current developments in environmental problems, solutions, strategies, and regulations. Students explore the various aspects of water, land, and air pollution, pollution prevention and control, and the role of regulation at the local, state, and federal level. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ENV 111 (2 credit hours)****Environmental Sampling Techniques Lab**

This course is designed to provide the student with an introduction to the techniques for the collection of waste, soil, water, and air samples. Areas covered include standard operating policies and procedures, investigation inspection techniques, overview activities, sample control, field records, document control, sample containers, sample preservation, sample holding times, and sample types. Basic sampling techniques covered are outlined in the EPA's 165.9 course, the EPA's Description and Sampling of Contaminated Soils Pocket Guide, general industry standards, and practices outlined by the manufacturers of sampling equipment. The course will include the general protocol for waste, soil, water, and air sampling.

**Components:** LAB: Laboratory

**ENV 280 (6 credit hours)****Water Treatment Technology**

This course concentrates on the operating requirements for drinking water treatment plants. Both surface water and ground water sources will be covered in this course. This course will provide the student with training in safety, plant operation, sampling and laboratory analysis and the recordkeeping requirements for water treatment facilities. The student will study the information needed by the operator to perform specialized water treatment processes. Areas to be covered include iron and manganese control, fluoridation, softening, trihalomethanes, demineralization, and the handling and disposal of process wastes. Corequisite: ENV 281

**Components:** LEC: Lecture

**ENV 281 (2 credit hours)****Water Treatment Technology Lab**

This is a hands-on class designed to allow the student to use the concepts, principles, and theories covered in Water Treatment Technology, ENV 280, in practical application. Corequisite: ENV 280

**Components:** LAB: Laboratory

**ENV 290 (6 credit hours)****Wastewater Treatment Technology**

This course concentrates on the operating requirements for package and small waste water treatment plants. This course will provide the student with training in safety, plant operation, sampling and laboratory analysis and the record keeping requirements for package and small wastewater treatment facilities. The course will provide the information needed by the operator to perform specialized wastewater treatment processes. Emphasis will be placed on larger conventional treatment plants and will include information of supervisory and management functions. Lecture: 6 credits (90 contact hours).

**Co-requisite:** ENV 291.

**Components:** LEC: Lecture

**ENV 291 (2 credit hours)****Wastewater Treatment Technology Lab**

This course concentrates on the operating requirements for package and small waste water treatment plants. This course will provide the student with training in safety, plant operation, sampling and laboratory analysis and the recordkeeping requirements for package and small wastewater treatment facilities. The course will provide the information needed by the operator to perform specialized wastewater treatment processes. Emphasis will be placed on larger conventional treatment plants and will include information of supervisor and management functions. Lab: 2 credits (90 contact hours).

**Co-requisite:** ENV 290.

**Components:** LAB: Laboratory

## Equine Management (EQM)

**EQM 120 (3 credit hours)****Introduction to Commercial Breeding Practices**

Introduces prospective horse farm personnel to the breeding farm environment. Includes topics that relate to commercial breeding farm management and the necessary record keeping requirements. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** EQM 100 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Equine Studies (EQS)

**EQS 104 (3 credit hours)****Equine Care Lab**

Introduces principles of care for horses in an equine facility environment with students learning industry accepted standards and techniques while providing care for 1 or 2 horses. Lab: 3.0 credits (135 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**EQS 110 (3 credit hours)****Basic Equine Physiology**

Introduces the study of equine care by examining the anatomy and physiology of equine body systems and applications of this knowledge to the raising, training and management of horses in general and racehorses in particular. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**EQS 112 (4 credit hours)****Racehorse Riding Skills I**

Introduces basic horse riding skills and their application to racehorse riding. Presents and requires daily practice of proper rider position at walk, trot, canter, on turn and in straights. Includes discussion and round pen applications of center of gravity of horse, center of gravity of rider and center of gravity of the combination of horse and rider. Teaches proper techniques for cooling out after exercise and or racing. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** Department Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 113 (4 credit hours)****Racehorse Riding Skills II**

Continues development of riding skills learned in EQS 112 by applying principles to riding racehorses in morning exercise sessions. Includes application of balance to evaluate soundness in racehorses; basic starting gate techniques for riders; principles of teaching young horses to enter and leave the starting gate and techniques for handling unruly horses. Lecture/Lab: 4.0 credit (150 contact hours).

**Pre-requisite:** EQS 112 and consent of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 115 (3 credit hours)****Equine Health and Medications**

Presents principles of health management as it relates to the prevention and treatment of common diseases, parasites and wounds. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EQS 110 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 118 (3 credit hours)****Equine Bloodstock**

Emphasizes skills in comprehending a sales page, marketing and preparing horses for sales, breeding and bloodline interpretation, and prospect analysis. Lecture: 3 credits.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 125 (3 credit hours)****Equine Nutrition**

Presents principles of nutritional management as it relates to the overall health and performance of the horse. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EQS 110 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 130 (3 credit hours)****Introduction to the Racing Industry**

Introduces students to racing industry organizations, personnel, facilities and the rules of racing. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 200 (3 credit hours)****Lameness in Racehorses**

Expands on basic equine anatomy with emphasis on normal function of front and rear legs and methods of evaluating deviations from normal function presented as lameness in racehorses. Also discusses response to injury, forms of therapy and training methods for horses returning from injury. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** EQS 110 or permission of instructor.

**Co-requisite:** Concurrent enrollment in EQS 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 223 (4 credit hours)****Training Principles and Practices**

Covers techniques of how to handle horses safely in a variety of training situations as well as basic management and care for horses in training. Includes identification and application of equine training aids and equipment as well as identification and application of equine support and medicated bandages commonly used for horses in training. Lecture/Lab: 4.0 credit (150 contact hours).

**Pre- or co-requisite:** EQS 104.

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 225 (3 credit hours)****Life Skills for Horsemen**

Explores concepts of goal setting, time management, marketing racehorses, marketing racing services, managing personal relationships as an equine professional, communication skills unique to equine professionals plus personal and family health and wellness plans. Prerequisite: EQS 222 and permission of instructor. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**EQS 240 (3 credit hours)****Equine Legal and Business Principles**

Provides legal insights and practical tips for a successful horse business. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EQS 299 (1-9 credit hours)****Equine Studies Cooperative Education**

Provides a planned and evaluated work experience related to the student's educational objective for which the student receives both financial remuneration and academic credit. While the maximum amount of credit granted for Equine cooperative Education experience varies by curriculum, the amount may never exceed nine hours in Associate in Applied Science Degree, diploma, or certificate program. Is available only to students enrolled in Associate of Applied Science in Equine Studies, Equine Studies Diploma and certificate program that list Equine Cooperative Education as an approved course. Co-op: 1.0 - 9.0 credits (60 - 540 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op



## Experiential Education (EX)

### EX 196 (1-6 credit hours)

#### Experiential Education

A planned and evaluated learning work experience for which the student receives academic credits and may receive financial remuneration. The work experience may be related to the student's major or may be exploratory in nature. One credit may be awarded for each 40 hours of work experience. The course may be repeated for a maximum of 6 credits and is available on a Pass/Fail basis only. This course is open only to transfer, non-degree and undecided students. Lecture: Variable; Laboratory: Variable.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Facilities Healthcare Technician (FHT)

### FHT 100 (3 credit hours)

#### Life Safety and Ventilation Compliance

Provides an in-depth evaluation of healthcare life safety and ventilation compliance for those working or seeking to work in healthcare facilities as building maintenance or construction professionals. The FHT 100 course examines codes, compliance, and regulation with a focus on operational activities. Lecture: 3 credits (45 contact hours).

**Co-requisite:** FHT 101.

**Attributes:** Technical

**Components:** LEC: Lecture

### FHT 101 (1 credit hours)

#### Life Safety and Ventilation Compliance Workshop

Provides an in-depth evaluation of healthcare life safety and ventilation compliance for those working or seeking to work in healthcare facilities as building maintenance or construction professionals. Guides the student in developing a series of drawings and recording references in a portfolio format that will provide a quick reference when working in the healthcare facilities industry. Lecture: 1 credit (15 contact hours).

**Co-requisite:** FHT 100.

**Attributes:** Technical

**Components:** LEC: Lecture

### FHT 110 (3 credit hours)

#### Electrical and Medical Gas Compliance

Provides an in-depth evaluation of healthcare electrical and medical gas compliance for those working or seeking to work in healthcare facilities as building maintenance or construction professionals. The FHT 110 course examines codes, compliance, and regulation with a focus on operational activities. Lecture: 3 credits (45 contact hours).

**Co-requisite:** FHT 111.

**Attributes:** Technical

**Components:** LEC: Lecture

### FHT 111 (1 credit hours)

#### Electrical and Medical Gas Compliance Workshop

Provides an in-depth evaluation of healthcare electrical and medical gas compliance for those working or seeking to work in healthcare facilities as building maintenance or construction professionals. Guides the student in developing a series of drawings and recording references in a portfolio format that will provide a quick reference when working in the healthcare facilities industry. Laboratory: 1 credit (30 contact hours).

**Co-requisite:** FHT 110.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Family Studies (FAM)

### FAM 252 (3 credit hours)

#### Introduction to Family Science

Introduces the scientific study of the family, including important theoretical frameworks in family science, historical trends in marriage and family life, gender role theory, family life theory, parenthood, communication, economics of family life, conflict, divorce, step-families and step-parenting, and family strengths. Analyzes contemporary family issues and requires informed, written positions on those issues. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** 3.0 credit hours of social or behavioral science or consent of instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

### FAM 253 (3 credit hours)

#### Human Sexuality: Development, Behavior, and Attitudes

Studies human sexuality, including the process of gender and attitudes, sexual response patterns, sexual behavior, and attitudes. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** 3.0 credit hours in social or behavioral science or consent of instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

### FAM 255 (3 credit hours)

#### Child Development

Overviews the various aspects of development (physical, social, emotional, intellectual) for children ages birth through adolescence. Emphasizes techniques of directed observation. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** 3.0 credit hours of social or behavioral science or consent of instructor.

**Attributes:** Other, Technical

**Components:** LEC: Lecture

## Fermentation Science (FRM)

### FRM 100 (1 credit hours)

#### Fundamentals of Fermentation

Introduces students to the fundamentals of fermentation. Emphasizes the minimum stages required to produce a fermented product, basic equipment requirements, organization of equipment and supplies, and the fundamentals of sanitization, boiling, cooling, and bottling. Lecture: 0.5 credits (7.5 contact hours). Laboratory: 0.5 credits (15 contact hours).

**Pre-requisite:** Students must be 21 years of age.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FRM 110 (3 credit hours)****Principles of Fermentation Science**

Introduces students to the basic methodologies used in fermentation. Emphasizes the production of fermented products including ingredients, fermentation best practices, fermentation management, packaging, and sanitation. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Students must be 21 years of age, and FRM 100 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FRM 120 (4 credit hours)****Brewery Facilities and Operational Management**

Introduces the knowledge and skill sets required to successfully commission, maintain, manage, operate, troubleshoot, and repair the specialized equipment and facilities found in commercial breweries with an emphasis on industrial safety. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Students must be 21 years of age & FRM 100.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FRM 130 (3 credit hours)****Sensory Analysis**

Evaluates visual, olfactory, taste, and texture characteristics of beer and its raw ingredients using the five senses. Contextualizes materials used in the formulation of recipes while discerning off-flavors at various steps in the brewing process. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Students must be 21 years of age, FRM 100 & FRM 110.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FRM 140 (3 credit hours)****Materials Evaluation**

Evaluates visual, olfactory, taste, texture characteristics, and scientific analysis of raw materials while contextualizing the materials used in the fermentation process. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Students must be 21 years of age, FRM 100 & FRM 110.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FRM 150 (3 credit hours)****Recipe Formulation**

Prepares students to formulate beers based upon desired profile, character, and style using knowledge acquired from Sensory Analysis (FRM 130) and Materials Evaluation (FRM 140) classes respectively. Pre-requisite or Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Students must be 21 years of age, FRM 100 & FRM 110.

**Co-requisite:** FRM 130 & FRM 140.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FRM 160 (2 credit hours)****Beverage Packaging**

Prepares students in all aspects of packaging of fermented beverages to include kegging, canning, and bottling operations in a brewery. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Students must be 21 years of age, FRM 100 & FRM 110.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

# Filmmaking (FLM)

**FLM 112 (4 credit hours)****Filmmaking: Treatment to Short Screen Play**

Provides project-based instruction on the basics of filmmaking. Familiarizes students with the process of creating a film treatment and proposal, and writing and revising a screenplay. Lecture: 4.0 credits (60 contact hours).

**Co-requisite:** (FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 122 (4 credit hours)****Filmmaking: Storyboard through Production**

Provides project-based instruction on basics of film production. Familiarizes students with directing, lighting, set designing, cinematography, and audio. Lecture: 4.0 credits (60 contact hours).

**Co-requisite:** (FLM 112 AND FLM 132 AND FLM 140) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 132 (4 credit hours)****Filmmaking: Editing through Distribution**

Provides experience in graphic design, editing, music production, and promotion. Emphasizes preparation for entry-level positions in the industry. Lecture: 4.0 credits (60 contact hours).

**Co-requisite:** (FLM 112 AND FLM 122 AND FLM 140) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 140 (2 credit hours)****Filmmaking: Lab**

Covers the lab portion of all topics included in FLM 112, FLM 122, and FLM 132. Consists of guest lecturers, group projects and hands on experience in film, ranging from pre-production and storyboards to post production. Laboratory: 2.0 credits (60 contact hours).

**Co-requisite:** (FLM 112 AND FLM 122 AND FLM 132) OR Instructor Consent.

**Attributes:** Technical

**Components:** LAB: Laboratory

**FLM 162 (3 credit hours)****Acting for Camera**

Covers the organization and setup of directing actors and working with a film crew. Integrates lectures from experts in the field. Prepares students for auditioning for professional projects. Focuses on student participation in at least two short film projects. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 190 (3 credit hours)****Film Boot Camp**

Covers the organization and setup of a film production in the form of a film 'boot camp.' Includes lecture from experts in the field. Provides real world experience for first year students in the roles of Production Assistant, Assistant Director, Camera Assistant, and Grip, and for second year students in the roles of Cinematographer, Director of Photography, Producer, and Director. Focuses on completion of multiple short films or a feature length production. This course may be repeated two times for a maximum of 6 credits. Lecture: 1.0 credits (15 contact hours). Lab: 2.0 credits (60 contact hours)

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 191 (1 credit hours)****Film Boot Camp (Short)**

Covers the organization and setup of a film production in the form of a short film 'boot camp'. Provides real world experience for first year students in the roles of Production Assistant, Assistant Director, Camera Assistant, and Grip, and for second year students in the roles of Cinematographer, Director of Photography, Producer, and Director. Focuses on completion of one short film. Laboratory: 1 credit hour (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**FLM 210 (3 credit hours)****Screenwriting**

Introduces the fundamentals of screenwriting including scenic description, character development, plot twists, turn-arounds, three-act structure and revisions. Reviews writing for camera. Demonstrates the use of proper formatting and the connection between the screenplay, the director and the production team. Connects students to active screenwriters through collaboration and networking. Prepares students for work with the Writers Guild and other professional organizations. Note: It is recommended that the student complete ENG 101 prior to taking this course. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (FLM 112 AND FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 260 (3 credit hours)****Cinematography**

Prepares students for careers in camera, directing and art design in the motion picture industry through introduction to composition, camera movement and prime lenses. Integrates classroom study of lens history and optics, as well as project-based, hands-on application of knowledge and practice. Demonstrates how lens selection and composition affects story development and viewer response. Lecture/Lab: 3.0 credits (75 contact hours).

**Pre-requisite:** (FLM 112 AND FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 261 (3 credit hours)****Film Directing**

Covers the organization and setup of directing actors and working with a film crew. Integrates lectures from experts in the field. Focuses on completion of two short film projects. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FLM 112 AND FLM 122 AND FLM 132 AND FLM 140 AND FLM 260.

**Attributes:** Technical

**Components:** LEC: Lecture

**FLM 291 (3 credit hours)****Cinematic Arts Internship**

Prepares students for entry into Bachelor of Fine Arts programs and film schools nationwide or for the workforce in film production. Amplifies knowledge and practice in screenwriting, producing, directing, camera, lighting, set design, graphics, audio, acting, music, and editing. Provides on-the-job experience in the film industry, requiring a minimum of 180 contact hours of appropriate experience approved by the faculty member. Requires a learning contract, signed by the student, faculty member, and supervisor. Provides experience writing a resume, attending guest lectures, and on-the-job training. Practicum: 3.0 credits (180 contact hours).

**Pre-requisite:** (FLM 112 AND FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor.

**Pre- or co-requisite:** (FLM 260 AND FLM 299) OR Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**FLM 299 (3 credit hours)****Special Topics in FLM: TOPIC**

Explores concepts and/or skills from special areas in film theory focusing on a specific genre. Note: May be repeated with different topics to a maximum of 6 credit hours. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Fire Science Technology (FIR)

**FIR 101 (3 credit hours)****Basic Firefighting I**

Introduces students to topics such as: fire department organization, firefighter safety, building construction, fire dynamics, extinguishers, and ladders. Lecture: 3 hours (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FIR 102 (3 credit hours)****Basic Firefighting II**

Introduces students to topics such as: personal protective equipment, fire hose practices, and ropes. Lecture 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FIR 103 (3 credit hours)****Basic Firefighting III**

Introduces students to topics such as: communications, structural search & rescue, tactical ventilation, overhaul/property conservation, and fire origin/cause determination. Lecture 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FIR 104 (3 credit hours)****Basic Firefighting IV**

Introduces students to topics such as: equipment maintenance, hose streams, community risk reduction, incident command, and forcible entry. Lecture 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FIR 105 (3 credit hours)****Fire Suppression**

Introduces students to topics such as: structural fire attack; supporting fire protection systems; vehicle fires; exterior class A fires; foam firefighting; liquid and gas fires; ground cover fires; building materials and dangerous building conditions associated with the effects of fire suppression activities. Lecture 3.0 credits (45 contact hours).

**Pre-requisite:** FIR 101, FIR 102, FIR 103, FIR 104.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FIR 106 (3 credit hours)****Intro to Special Responses**

Introduces students to hazardous materials response at the operations level and specialized responses to incidents involving terrorism, weapons of mass destruction, and Active Shooter Hostile Events Response (ASHER). Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 107 (3 credit hours)****Intro to Rescue & Patient Care**

Introduces students to topics such as: first aid, cardiopulmonary resuscitation, technical rescue awareness concepts, and vehicle extrication. 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FIR 198 (3 credit hours)****Practicum**

Introduces students to a supervised on-the-job work experience related to the student's educational program. Practicum: 3 credits (180 contact hours).

**Pre-requisite:** FIR 105 or Instructor Consent.

**Attributes:** Technical

**Components:** PCM: Practicum

**FIR 202 (3 credit hours)****Fire Instructor I**

Prepares students with basic knowledge to perform at the Instructor I Level, as defined by National Fire Protection Association Standard 1041. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 203 (3 credit hours)****Fire Instructor II**

Prepares students with basic knowledge to perform at the Instructor II Level, as defined by National Fire Protection Association Standard 1041. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FIR 202 or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 205 (3 credit hours)****Fire Officer I**

Prepares students with basic knowledge to perform at the Fire Officer I Level, as defined by National Fire Protection Association Standard 1021. Pre-requisite: Instructor Consent. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 206 (3 credit hours)****Fire Officer II**

Prepares students with basic knowledge to perform at the Fire Officer II Level, as defined by National Fire Protection Association Standard 1021. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FIR 205 or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 210 (3 credit hours)****Aircraft Rescue Firefighting**

Prepares students with basic knowledge to perform as an airport firefighter, as defined by National Fire Protection Association Standard 1003.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 212 (3 credit hours)****Driver/Operator - Pumper**

Prepares students with basic knowledge to perform as a pumper driver/operator, as defined by National Fire Protection Association Standard 1002. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 213 (3 credit hours)****Driver/Operator - Aerial**

Prepares students with basic knowledge to perform at as an aerial driver/operator, as defined by National Fire Protection Association Standard 1002. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 215 (3 credit hours)****Emergency Medical Responder**

Introduces students to wide variety of topics in patient care at the emergency medical responder level as outlined in the United States Department of Transportation (USDOT) national standard curriculum. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 220 (3 credit hours)****Hazardous Materials Technician**

Prepares students with basic knowledge to perform as a hazardous materials technician, as defined by National Fire Protection Association Standard 1072. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FIR 106 or FIR 1062 Hazardous Material Operations.

**Attributes:** Technical

**Components:** LEC: Lecture



**FIR 225 (1-3 credit hours)****Special Topics in Fire Science**

Provides advanced study on a selected topic or emerging issue in the fire service. May be repeated to a maximum of six credits under different subtitles. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 230 (6 credit hours)****Emergency Medical Technician**

Introduces students to wide variety of topics in patient care at the emergency medical technician level as outlined in the United States Department of Transportation (USDOT) national standard curriculum. Integrated Lecture/Lab: 6 credits (150 contact hours).

**Pre-requisite:** Minimum ACT Reading Score of 15 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**FIR 260 (3 credit hours)****Principles of Emergency Services**

Provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; and organization and function of public and private fire protection services. Lecture: 3 credits (45 contacts).

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 261 (3 credit hours)****Building Construction**

Provides students with an introduction to construction, design of structures, and the components of building construction as related to firefighter and life safety.

**Pre- or co-requisite:** FIR 260 or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 262 (3 credit hours)****Fire Behavior and Combustion**

Explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** FIR 260 or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 263 (3 credit hours)****Fire Service Safety & Wellness**

Introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Lecture: 3 credits (45 contacts).

**Pre- or co-requisite:** FIR 260 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 264 (3 credit hours)****Fire Prevention**

Provides fundamental knowledge relating to the field of fire prevention including: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; and fire investigation. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** FIR 260 Or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 265 (3 credit hours)****Fire Protection Systems**

Provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** FIR 260 or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 280 (3 credit hours)****Fire Service Legal Aspects**

Addresses the Federal, State, and local laws that regulate emergency services and include a review of national standards, regulations, and consensus standards. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 281 (3 credit hours)****Fire Service Administration**

Introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 282 (3 credit hours)****Strategy and Tactics**

Provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**FIR 1071 (0.26 credit hours)****First Aid**

Introduces students to basic concepts of first aid, such as offering initial care for traumatic and medical emergencies.

**Components:** LEC: Lecture

## Fire/Rescue Training (FRT)

**FRT 93 (0.1-6 credit hours)****Selected Topics in Homeland Security**

Examines special topics in Homeland Security offered in response to needs of citizens and emergency response personnel. Outlines and course competencies will be located in the Academic Dean's office. Lecture: 0.1 - 6.0 credits (1.5 - 90 contact hours).

**Components:** LEC: Lecture



## First Year Experience (FYE)

### FYE 100 (1 credit hours)

#### Strategies for College Success

Introduces students to strategies and information that promote success in the college environment including educational planning, campus resources, and academic success skills. NOTE: Student may not receive credit for both FYE 100 and FYE 105. Lecture: 1.0 credit (15 contact hours).

**Attributes:** College Success, Other, Course Also Offered in Modules, Enrichment 1st Year Experience

**Components:** LEC: Lecture

### FYE 105 (3 credit hours)

#### Achieving Academic Success

Introduces students to strategies that promote academic, personal, and professional success in the college environment. Foster a sense of belonging, promotes engagement in the curricular and co-curricular life of the college, and provides opportunities for student to develop academic plans that align with career and life goals. NOTE: Students may not receive credit for both FYE 100 and FYE 105. Lecture: 3.0 credits (45 contact hours).

**Attributes:** College Success, Other, Course Also Offered in Modules, Enrichment 1st Year Experience

**Components:** LEC: Lecture

### FYE 110 (3 credit hours)

#### First Year Experience and Applications

Uses computers, devices, and the Internet to introduce students to strategies that promote academic, personal, and professional success in the college environment. Explores study skills, communication and problem solving, education and career options, and practical life skills, while introducing technology skills and helping to improve the quality of life and employability of students. Students taking FYE 110 cannot earn credit if they have already completed FYE 100 or FYE 105. Lecture: 3 credits (45 contact hours).

**Attributes:** College Success

**Components:** LEC: Lecture

### FYE 1051 (1 credit hours)

#### Orientation to College

Introduces students to college policies, departments, student organizations and technology to promote academic and personal success. NOTE: Students may not receive credit for both FYE 100 and FYE 105. Lecture: 1.0 credit (15 contact hours).

**Attributes:** Enrichment 1st Year Experience

**Components:** LAB: Laboratory

### FYE 1052 (1 credit hours)

#### Education and Career Planning

Introduces students to skills and resources needed to achieve academic and career success. NOTE: Students may not receive credit for both FYE 100 and FYE 105. Lecture: 1.0 credit (15 contact hours)

**Attributes:** Enrichment 1st Year Experience

**Components:** LEC: Lecture

### FYE 1053 (1 credit hours)

#### Academic, Financial, and Personal Skills

Introduces students to skills and resources needed to develop responsibility for personal, classroom and academic success. NOTE: Students may not receive credit for both FYE 100 and FYE 105. Lecture: 1.0 credit (15 contact hours).

**Attributes:** Enrichment 1st Year Experience

**Components:** LEC: Lecture

## Fixed Wing Flight Training (FWT)

### FWT 101 (4 credit hours)

#### Private Pilot Fixed Wing Ground School

Covers fundamentals of fixed wing flight, flight operations, aviation weather, performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, and metrology and human factors. Prepares students for the FAA Fixed Wing Private Pilot Airman Knowledge Exam. Lecture: 4.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

### FWT 102 (2 credit hours)

#### Private Pilot Fixed Wing Flight Lab

Introduces the student to the fundamentals of fixed wing flight and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. Prepares students to take the Federal Aviation Administration Fixed Wing Private Pilot Practical Test Standards examination. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** FWT 101 and Proof of valid Second Class (or higher) Medical Certificate.

**Attributes:** Technical

**Components:** LAB: Laboratory

### FWT 103 (4 credit hours)

#### Fixed Wing Aircraft Instrument Pilot Ground School

Prepares students for the FAA fixed wing Instrument knowledge test and includes an in-depth study of aircraft flight instruments, basic attitude instrument flying, Instrument Flight Rules (IFR) navigation systems and procedures, aviation weather, applicable Federal Aviation Regulations (FAR), and the instrument charts required for IFR flight. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** FWT 101, FWT 102.

**Attributes:** Technical

**Components:** LEC: Lecture

### FWT 104 (2 credit hours)

#### Fixed Wing Instrument Pilot Flight Lab

Prepares students for the fixed wing FAA Instrument Flight Practical Test Standards exam and the FAA Instrument Flight Rating. Includes in-depth demonstration of in-flight mastery of aircraft flight instruments. Features attitude instrument flying, Instrument Flight Rules (IFR) navigation and procedures, aviation weather procedures, applicable Federal Aviation Regulations (FAR), and mastery of the instruments required for IFR flight. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** FWT 101, FWT 102, and FWT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

### FWT 105 (3 credit hours)

#### Fixed Wing Commercial Pilot Ground School

Reviews the principles of fixed wing flight, aircraft systems, pertinent federal aviation regulations and airman publications and service in order to prepare the student for the FAA Commercial Fixed Wing Pilot airman knowledge exam. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** FWT 101, and FWT 102 or Private Pilot Certificate, and FWT103.

**Co-requisite:** FWT104.

**Attributes:** Technical

**Components:** LEC: Lecture

**FWT 106 (2 credit hours)****Commercial Flight Lab**

Introduces student pilots to more advanced fixed wing flight maneuvers and the practical application of in-flight aviation weather, aircraft performance, navigation, with Federal Aviation Administration (FAA) regulations, flight planning, radio procedures, and human factors. Complies with FAA flight hour and certification requirements to qualify students to apply for the FAA Commercial Fixed Wing Pilot Practical Test Standard (PTS) examination. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** FWT 101, FWT 102, FWT 103, FWT 104, and FWT 105.

**Attributes:** Technical

**Components:** LAB: Laboratory

**FWT 107 (4 credit hours)****Certified Flight Instructor Fixed Wing**

Reviews the principles of fixed wing flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the FAA Certified Flight Instructor Practical Test Standard (PTS). Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** FWT 101 (or Private Pilot Certificate), FWT 102, FWT 103, FWT 104, FWT 105 and FWT106.

**Attributes:** Technical

**Components:** LEC: Lecture

**FWT 108 (2 credit hours)****Certified Flight Instructor Fixed Wing Lab**

Reviews student in-flight mastery of the fixed wing principles of flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the fixed wing FAA Certified Flight Instructor Practical Test Standards (PTS) exam. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** FWT 101, FWT 102, FWT 103, FWT 104, FWT 105, FWT 106, and FWT 107.

**Attributes:** Technical

**Components:** LAB: Laboratory

**FWT 109 (2 credit hours)****Fixed Wing Commercial Multi-Engine Ground & Flight Lab**

Reviews the principles of fixed wing flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the fixed wing FAA Airman Knowledge and Practical Test Standard exams for a Multi-Engine Rating. Lecture: 0.5 credits (7.5 contact hours) Laboratory: 1.5 credits (45 contact hours).

**Pre-requisite:** FWT 101 (or Private Pilot Certificate), FWT 102, FWT103, FWT104, FWT105, and FWT106.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**FWT 110 (2 credit hours)****Fixed Wing Certified Flight Instructor Instrument Flight Lab**

Demonstrates a mastery of instructing the principles of fixed wing flight, aircraft systems, pertinent federal aviation regulations and airman publications and service in order to prepare the student for the fixed wing FAA Certified Flight Instructor Instrument Practical Standards Test (PST) examination. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** FWT 101, FWT 102, FWT 103, FWT 104, FWT 105, FWT 106, FWT 107, FWT 108, and FWT 109.

**Attributes:** Technical

**Components:** LAB: Laboratory

**FWT 111 (4 credit hours)****Certified Fixed Wing Flight Instructor Ground School**

Reviews the principles of fixed wing flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the fixed wing FAA Certified Flight Instructor airman knowledge exam. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** FWT 101(or Private Pilot Certificate), FWT 102, FWT 103, FWT 104, FWT 105, FWT 106, FWT 107, FWT 108 and FWT 109.

**Attributes:** Technical

**Components:** LEC: Lecture

## Fluid Power (FPX)

**FPX 100 (3 credit hours)****Fluid Power**

Includes fluid power theory, component identification and application, schematic reading, and basic calculations related to pneumatic and hydraulic systems and their operations. Lecture: 3 credits (45 contact hours).

**Co-requisite:** FPX 101 or Consent.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**FPX 101 (2 credit hours)****Fluid Power Lab**

Provides practical experiences in the study of fluid power theory, hydraulics and pneumatics component identification, schematic reading, and basic calculations related to hydraulic and pneumatic systems and their operations. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** FPX 100 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**FPX 1001 (0.3 credit hours)****Introduction to Fluid Power**

Introduces the basic concepts of fluid power and provides an opportunity to discuss the application of those concepts in the development of hydraulic and pneumatic systems. Includes a general discussion on the safe working practices required with fluid power systems. Lecture: .3 credit (4.5 contact hours).

**Co-requisite:** FPX 1011 or Consent.

**Components:** LEC: Lecture

**FPX 1002 (0.3 credit hours)****Introduction to Hydraulic System Maintenance**

Familiarizes the student with hydraulic fluids, reservoirs, and filters. Covers the methodologies required when servicing a typical hydraulic system. Includes a general discussion on the safe working practices required with fluid power systems. Lecture: 0.3 credit (4.5 contact hours).

**Pre-requisite:** [(FPX 1001 and FPX 1011) with a grade of C or better] or Consent.

**Co-requisite:** FPX 1012 or consent.

**Components:** LEC: Lecture

**FPX 1003 (0.4 credit hours)****Introduction to Pneumatic System Maintenance**

Introduces pneumatic system maintenance. Covers the skills required to service modern pneumatic and air preparation systems. Includes a general discussion on the safe working practices required with fluid power systems. Lecture: 0.4 credit (6.0 contact hours).

**Co-requisite:** FPX 1013 or Consent.

**Components:** LEC: Lecture

**FPX 1004 (1 credit hours)****Hydraulic System Components and Applications**

Introduces the basic fundamentals of hydraulic component, system design, and operation. Covers higher level schematic layout and design as well as the specifics involved with the actual component selection. Provides an opportunity to design and build actual hydraulic circuits and then troubleshoot any faults that may be present in their design or construction. Includes a general discussion on the safe working practices required with fluid power systems. Lecture: 1 credit (15 contact hours).

**Co-requisite:** FPX 1014 or Consent.

**Components:** LEC: Lecture

**FPX 1005 (1 credit hours)****Pneumatic Systems and Components**

Introduces the basic fundamentals of pneumatic components and operation. Covers higher level schematic layout and design as well as the specifics involved with the actual component selection. Provides the opportunity to design and build actual pneumatic circuits and then troubleshoot any faults that may be present in their design or construction. Includes a general discussion on the safe working practices required with fluid power systems. Lecture: 1 credit (15 contact hours).

**Co-requisite:** FPX 1015 or Consent.

**Components:** LEC: Lecture

**FPX 1011 (0.3 credit hours)****Introduction to Fluid Power Lab**

Introduces the basic concepts of fluid power and discusses the application of those concepts in the development of hydraulic and pneumatic systems. Includes a general discussion on the safe working practices required with fluid power systems. Lab: 0.3 credits (9 contact hours).

**Co-requisite:** FPX 1001 or Consent.

**Components:** LAB: Laboratory

**FPX 1012 (0.3 credit hours)****Introduction to Hydraulic System Maintenance Lab**

Introduces pneumatic system maintenance. Familiarizes students with hydraulic fluids, reservoirs, and filters. Covers the methodologies required when servicing a typical hydraulic system. Includes a general discussion on the safe working practices required with fluid power systems. Lab: .3 credit (9 contact hours).

**Co-requisite:** FPX 1002 or Consent.

**Components:** LAB: Laboratory

**FPX 1013 (0.3 credit hours)****Introduction to Pneumatic System Maintenance Lab**

Introduces pneumatic system maintenance. Covers the skills required to service modern pneumatic and air preparation systems. Includes a general discussion of the safe working practices required with fluid power systems. Lab: 0.3 credit (9 contact hours).

**Co-requisite:** FPX 1003 or Consent.

**Components:** LAB: Laboratory

**FPX 1014 (0.55 credit hours)****Hydraulic System Components and Applications Lab**

Introduces basic fundamentals of hydraulic component, system design, and operation. Covers higher level schematic layout and design as well as the specifics involved with the actual component selection. Provides an opportunity to design and build actual hydraulic circuits and then troubleshoot any faults that may be present in their design or construction. Includes a general discussion of the safe working practices required with fluid power systems. Lab: 0.55 credits (16.5 contact hours).

**Co-requisite:** FPX 1004 or Consent.

**Components:** LAB: Laboratory

**FPX 1015 (0.55 credit hours)****Pneumatic Systems and Components Lab**

Includes the application of basic fundamentals of pneumatic components and operation. Covers schematic layout and design as well as the specifics involved with the actual component selection. Provides the opportunity to design and build actual pneumatic circuits and then troubleshoot any faults that may be present in their design or construction. Includes a general discussion on the safe working practices required with fluid power systems. Lab component for FPX 1005. Lab: 0.55 Contact Hours (16.5).

**Co-requisite:** FPX 1005 or Consent.

**Components:** LAB: Laboratory

## Folk Studies (FLK)

**FLK 276 (3 credit hours)****Introduction to Folk Studies**

An introduction to the study of folk traditions in different contexts, focusing on the concepts of folk group, cultural relativism, fieldwork, meaning and function, and the genres of folk narrative, folksong, folk custom and traditional material culture. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, AH - Arts and Humanities

**Components:** LEC: Lecture

**FLK 280 (3 credit hours)****Cultural Diversity in the United States**

Focuses on understanding, interpretation, and appreciation of the multicultural nature of American society. Emphasis on the varieties of cultural expression, customs and world view practiced by regional, ethnic, racial and sectarian cultures. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science, Other

**Components:** LEC: Lecture

## French Language and Literature (FRE)

**FRE 101 (4 credit hours)****Elementary French I**

Introduces basic modes of communication in French. Stresses speaking, listening, reading and writing as target skills. Emphasizes everyday language and presents an overview of the cultures of various Francophone countries. Lecture: 4 credits (60 contact hours).

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**FRE 102 (4 credit hours)****Elementary French II**

Continues the study of basic French through grammar, reading, and oral practice. Stresses speaking, listening, reading and writing as target skills. Emphasizes everyday language and exploring the cultures of various Francophone countries. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** FRE 101.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**FRE 201 (3 credit hours)****Intermediate French I**

Focuses on developing listening, speaking, reading, and writing skills in French at the intermediate level with an emphasis on developing cultural competency. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FRE 102 or two years of high school French and placement test.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**FRE 202 (3 credit hours)****Intermediate French II**

Continues FRE 201 with a focus on developing listening, speaking, reading, and writing skills in French at the intermediate level with an emphasis on developing cultural competency. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FRE 201 or three years of high school French and placement test.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

## General College Studies (GEN)

**GEN 100 (1 credit hours)****Introduction to College**

Introduces new students to college and college life, support services provided by the college, techniques for academic success, and career exploration. Lecture: 1.0 credit hour (15 contact hours).

**Attributes:** Other, Course Also Offered in Modules, Enrichment 1st Year Experience

**Components:** LEC: Lecture

**GEN 102 (3 credit hours)****Foundations of Learning**

Presents strategies which promote academic and personal success in college, including utilizing campus resources, learning and memory, self-management, critical reading, critical thinking, classroom skills, and career exploration. Lecture: 3 credit hours (45 contact hours).

**Attributes:** Course Also Offered in Modules, Enrichment Study Skills

**Components:** LEC: Lecture

**GEN 103 (1 credit hours)****Principles of Peer Mentoring**

Focuses on the study of issues, topics, and strategies related to mentoring first-year students. Relevant student development theory is highlighted. Prepares peer mentors to assist in teaching a section of GEN 100. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Sophomore status and consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**GEN 104 (2 credit hours)****Applied Principles of Peer Mentoring**

Offers academic credit to peer mentors who assist teaching a section of GEN 100 with a faculty member. Prepares peer mentors for helping plan course content, meeting with first-year students, and assisting with other course-related responsibilities as determined by the GEN 100 faculty member. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** GEN 103 and consent of GEN 100 instructor and Sophomore status.

**Attributes:** Other

**Components:** LAB: Laboratory

**GEN 120 (3 credit hours)****Service Learning**

Engages students directly in structured, community-based activities to acquaint them with community opportunities, services, and needs. Integrates concepts from the classroom with community service allowing student to practice concepts while developing an appreciation of service. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**GEN 122 (1 credit hours)****The Exemplary Tutor**

Trains college students to be effective tutors by introducing ethics and philosophy of tutor-tutee relationships and concepts of questioning, learning styles, problem solving, active listening, goal setting, and critical thinking. Can be taken 1 time for a total of 1 credit. Lecture: 1 credit (15 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**GEN 123 (1-3 credit hours)****The Exemplary Reading Tutor**

Provides credit for students wishing to tutor in reading or reading based courses as related to the reading expectations in the KDE Core Curriculum. Grants credit of 1 hour for 45 hours of tutoring, 2 credits for 90 hours of tutoring, and 3 hours for 120 hours of tutoring. May be repeated for a total of 6 credits. Pass/Fail. Lecture: 1 - 3 credits (15 to 45 contact hours).

**Pre-requisite:** GEN 122.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**GEN 125 (3 credit hours)****Applied Meta-Thinking**

Develops critical thinking skills and literacy processes across disciplines utilizing communication and appropriate applications in making self-paced, self-directed decisions and judgments. Lecture: 3.0 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Course Also Offered in Modules

**Components:** LEC: Lecture

**GEN 131 (1 credit hours)****Basic Library Research and Resources**

Introduces student to effective and efficient use of information resources through development of search statements/strategies, location and evaluation of information and information resources, and review and revision of search strategies as needed. Introduces students to the library catalog, print resources, databases, web resources and to the evaluation of information. Lecture: 1 credit (15 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**GEN 140 (3 credit hours)****Development of Leadership**

Presents concepts of leadership and group dynamics, especially focusing on each student's individual leadership philosophy, and providing opportunities for all students to develop leadership skills and potential. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture



**GEN 175 (3 credit hours)****Career and Life Skills Development**

Investigates the importance of appropriate social behavior and interaction in the workplace. Presents skills necessary for job search, self-management, and life and work transitions for adapting to changing demands and expectations. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other, Course Also Offered in Modules

**Components:** LEC: Lecture

**GEN 225 (3 credit hours)****Lifelong Learning Applications**

Develops and identifies overall life skills in complex systems as a whole to interact and communicate with others to produce successful outcomes. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** GE 175 or Consent of Instructor.

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**GEN 276 (1 credit hours)****Employment and Professional Skills**

Presents the process of effective career planning and develops the skills necessary for obtaining and maintaining employment. Lecture: 1 credit (15 contact hours).

**Attributes:** Enrichment Career Counseling, Technical

**Components:** LEC: Lecture

## Geographic Information Systems (GIS)

**GIS 120 (3 credit hours)****Introduction to Geographic Information Systems**

Presents a comprehensive survey of the fundamental concepts of GIS, providing students a command over the software to import raster and vector data into a GIS and to conduct simple analyses over their data. Intended for those with limited experience with GIS who are exploring career opportunities in the field. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**GIS 145 (3 credit hours)****Remote Sensing**

Introduces remote sensing of the earth with topics that include the physical principles of remote sensing, history and future trends, sensors and their characteristics, image data sources, and image classification and analysis techniques. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** CIT 125 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**GIS 255 (3 credit hours)****Geospatial Programming**

Examines customization of GIS software applications by way of modified service interface elements while covering topics in theory and implementation of the various scripting languages currently used. Prepares students to solve geospatial problems and streamline GIS workflows through the creation and modification of scripts. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 125 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**GIS 260 (3 credit hours)****Geospatial Web Mapping**

Introduces the design, publishing, optimization and maintenance of geospatial servers, and basic geospatial web services and applications. Includes an introduction to browser and mobile enabled interactive applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 125 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Geography (GEO)

**GEO 130 (3 credit hours)****Earth's Physical Environment**

Explores the fundamental characteristics of Earth's physical environment. Emphasizes identifying interrelationships between atmospheric processes involving energy, pressure, and moisture; weather and climate; and terrestrial processes of vegetative biomes, soils, and landscape formation and change. Fulfills elementary certification requirements in education, and USP cross-disciplinary requirement. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GEO 131 (1 credit hours)****Earth's Physical Environment Laboratory**

Emphasizes basic laboratory studies of identifying interrelationships between atmospheric processes involving energy, pressure, and moisture; weather and climate; and terrestrial processes of vegetative biomes, soils, and landscape formation and change. Laboratory: 1 credit (30 contact hours).

**Pre- or co-requisite:** GEO 130.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**GEO 152 (3 credit hours)****Regional Geography of the World**

Introduces regional geography with a focus on the world's physical and human landscapes. Emphasizes connections between regions and how each region affects and is affected by global issues such as economic restructuring, food production, and environmental change. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**GEO 160 (3 credit hours)****Lands and Peoples of the Non-Western World**

Provides a geographic study of world regions defined conceptually and historically as non-Western. Includes global patterns of social, cultural, economic and political differences between the West and Non-West and the processes key to making the Non-Western world, such as colonialism and imperialism. Considers significant current issues including sustainable development, environment, human rights, and gender relations. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture



**GEO 172 (3 credit hours)****Human Geography**

Presents a study of the spatial distributions of significant elements of human occupancy of the earth's surface including basic concepts of diffusion, population, migration, settlement forms, land utilization, and impact of technology on human occupancy of the earth. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**GEO 210 (3 credit hours)****Pollution, Hazards, and Environmental Management**

An introduction to environmental systems such as weather and climate, vegetation, land forms and soils, and how the quality of these systems is modified by human use. Resource issues discussed include: atmospheric pollution and global warming; groundwater, flooding, and flood plain management; volcanic activity and earthquakes; and biospheric processes associated with deforestation and lake eutrophication. Case studies based upon important environmental problems illustrate how human activity and environmental systems interrelate. Fulfills USP Cross-Disciplinary requirement. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**GEO 222 (3 credit hours)****Cities of the World**

Focuses on the historical development, contemporary character, and alternative futures of cities in both developing and developed regions. Emphasizes the spatial, social, economic, and political processes of major world cities. Includes a specific focus on contemporary urban problems. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**GEO 240 (3 credit hours)****Geography and Gender**

Presents a geographic approach to the study of gender relations, emphasizing the role of space and place in shaping the diversity of gender relations throughout the world. Stresses the importance of gender relations in understanding a variety of issues through the application of case study analysis. Includes the design and use of urban and rural environments, "Third World" development, regional economic restructuring, changing political geographies, and migration. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**GEO 251 (3 credit hours)****Weather and Climate**

Examines the atmospheric controls associated with local, regional, and global weather and climate variability. Includes fundamental coverage of the physics and chemistry of energy, gases, pressure, and moisture, with a goal to promote an understanding of general weather analysis and forecasting, severe storms, atmospheric pollution, descriptive climatology, and global climate change. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** GEO 130 or consent of instructor.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GEO 280 (4 credit hours)****Environmental Science**

Introduces the study of environmental science and the role of the interrelationship between humans and their environment in contemporary issues. Emphasizes the basic principles of environmental science, functions of ecological systems, contemporary environmental conditions and problems, techniques for investigating these systems, and theories on humanity's place in the world's ecosystems and physical environment. Integrated Lecture/Lab: 4 credit hours (60 contact hours).

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**GEO 299 (1-3 credit hours)****Special Topics in Geography**

Introduces specialized topics in the field of geography to meet current trends and investigations of contemporary issues in the discipline. May be repeated to a maximum of six credits under different subtitles. Lecture: Variable.

**Pre-requisite:** Consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

## Geological Sciences (GLY)

**GLY 101 (3 credit hours)****Physical Geology**

Introduces the principles of physical geology, including study of minerals and rocks, volcanoes and earthquakes, plate tectonics, and the landforms of Earth's surface. Requires concurrent enrollment in GLY 111. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GLY 102 (3 credit hours)****Historical Geology**

Covers the history of the Earth: its origin as part of the solar system, and subsequent evolution of the atmosphere, continents, seas, and life as interpreted from the rock record. Includes in addition to lecture illustrations, field trips and out-of-class exercises. Gives attention to the development of the basic principles used in interpretation. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** GLY 101 and GLY 111 or consent of the instructor.

**Co-requisite:** GLY 112.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GLY 110 (3 credit hours)****Environmental Geology**

Introduces and applies basic geological concepts to current environmental issues including the availability and use of water and soil resources, pollution causes, effects and solutions, and causes and prediction of environmental hazards including floods, landslides, subsidence, earthquakes and volcanoes. Lecture: 3 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GLY 111 (1 credit hours)****Physical Geology Laboratory**

Identify minerals and rocks in hand specimens, interpret landscape features as shown on topographic maps, and study geologic maps. Laboratory: 1.0 credit (30 contact hours).

**Co-requisite:** GLY 101.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**GLY 112 (1 credit hours)****Historical Geology Laboratory**

Interpret geologic maps and cross-sections, and study important invertebrate fossil groups. Requires one field trip. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** GLY 101 and GLY 111 or consent of the instructor.

**Co-requisite:** GLY 102.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**GLY 114 (1 credit hours)****Environmental Geology Laboratory**

Introduces and applies basic geologic concepts in a laboratory setting to current environmental issues, including the availability, use, and testing of water and soil resources, as well as the effects, solutions, and causes of pollution. Lab: 1.0 credit (30 contact hours).

**Pre- or co-requisite:** GLY 110.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**GLY 125 (3 credit hours)****Geology of the National Parks and Monuments**

Introduces the principles of physical geology within the context of the U.S. National Parks and Monuments, including Earth materials, geologic time, plate tectonics, and the surface and internal processes that have shaped and continue to shape the Earth as related to specific National Park and Monument sites. Includes an overview of the history of the park system and its unique role in understanding and preserving our natural history and environment. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GLY 130 (3 credit hours)****Dinosaurs and Disasters: A Brief History of the Vertebrates**

Examines dinosaurs' interactions with their environment, their indirect influence on mammals, and implications for humankind. Traces the history of dinosaurs from early vertebrate ancestors to their final extinction, and surveys the evolutionary, paleogeographic, environmental, and possible extraterrestrial causes for their rise to dominance and sudden fall. Lecture: 3.0 credit hours.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GLY 131 (1 credit hours)****Dinosaur Laboratory**

Augments GLY 130 in analysis and interpretation of fossils, scale models, and sedimentary rocks. Investigates specimens and examines features of dinosaurs and related fossils. Uses sedimentary rocks and fossils to interpret ancient environments, dinosaur anatomy, and geologic history. Demonstrates to students how science works. Lab: 1.0 credit (30 contact hours).

**Pre- or co-requisite:** GLY 130.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**GLY 140 (3 credit hours)****Introduction to Oceanography**

Investigates geologic, physical, biogeochemical, and biologic processes that occur within the oceans of the world. Emphasizes connections between these processes and how those connections interact with our planet's life. Explores geologic evolution of the ocean floor, dynamic composition of ocean water, lithospheric and atmospheric interactions with the hydrosphere, marine life and ecosystems, and the impact of human activity on marine ecosystems. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SN - Science

**Components:** LEC: Lecture

**GLY 220 (4 credit hours)****Principles of Physical Geology**

Learn how the Earth works: an integrated course in physical geology, covering the physical, chemical and biological processes that combine to produce geological processes. Focuses on plate tectonics, earth surface processes, and properties and formation of earth materials. Lab exercises emphasize identification and interpretation of geologic materials, geologic maps and cross sections. Lecture: 3 credits (45 contact hours); Laboratory: 1 credits (30 contact hours).

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

## Germanic Languages and Literatures (GER)

**GER 101 (4 credit hours)****Elementary German I**

Includes fundamentals of German with development of the four basic skills: reading, writing, listening, and speaking. Lecture: 4 credits (60 contact hours).

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**GER 102 (4 credit hours)****Elementary German II**

Continues the fundamentals of GER 101 with further development of the four basic skills: reading, writing, listening, and speaking. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** GER 101 or Consent of Instructor.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**GER 201 (3 credit hours)****Intermediate German I**

Includes the systematic review of grammar and furthering of reading, writing, listening, and speaking skills based upon cultural and literary materials. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** GER 102, or equivalent or placement test.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**GER 202 (3 credit hours)****Intermediate German II**

Continues the study of intermediate German through grammar, reading, and oral practice. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** GER 201 or equivalent or placement test.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

# Graphic Design and Library Technology (IMD)

## IMD 100 (3 credit hours)

### Digital Information & Communication Technologies

Introduces digital concepts and technologies. Examines hardware, operating systems, networks, applications, telecommunications, digital security, ethics, and social media. Utilizes Windows operating system plus word processing, spreadsheet, database, and presentation applications. Emphasizes social media practices/concepts and trends for practical daily users. Lecture: 3 credits (45 contact hours).

**Attributes:** Digital Literacy

**Components:** LEC: Lecture

## IMD 115 (3 credit hours)

### Introduction to Graphic Design

Introduces theory, concepts and techniques required in graphic design. Includes an introduction to layout; color theory and use; design, photo and illustration techniques; and exploration of media in respect to digital design. Integrates concepts regarding the production process including pre-press, printing, other production techniques and distribution. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 124 (3 credit hours)

### Introduction to Game Development

Presents an overview of the game development process including game development history, platforms, goals, genres, players, story and character development, gameplay, levels, interfaces, audio, development processes, development team roles, marketing, and maintenance. Provides opportunities to play and analyze games and to complete portions of game designs. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT105 OR IMD100 OR Consent of Instructor.

**Co-requisite:** CIT221 OR IMD221 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 126 (3 credit hours)

### Introduction to Desktop Publishing

Examines the use of microcomputers for designing and producing various publications is introduced. Hands-on experience is provided in using desktop publishing software and a laser printer to produce high-resolution publications, such as flyers, brochures, business forms, and newsletters. Students are also introduced to basic design techniques, type and graphics layout, and the related terminology. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 127 (3 credit hours)

### Vector Design with Adobe Illustrator

In this course, students will be introduced to and develop vector (line-based) graphics using industry-standard application(s). Topics covered will include examining the theory behind vector graphics, investigating the advertising and print industry's use of this type of graphic, creation of graphics from simple to increasingly complex, as well as development of a portfolio of vector art. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IMD 115 or concurrent or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 128 (3 credit hours)

### Raster Design with Adobe PhotoShop

Introduces raster (photo or pixel-based) graphics using industry standard application(s). Covers the theory behind raster graphics, investigating the advertising and print industries' use of this type of graphic, creation and manipulation of raster-based graphics from simple to increasingly complex, the use of Photoshop in web design, video editing and compositing with Photoshop, as well as development of a portfolio of raster art and photo editing and manipulation samples. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 133 (3 credit hours)

### Beginning Web Design

Introduces the creation and publication of a web site and covers extensible hypertext markup language (XHTML) and introductory cascading style sheets (CSS). Covers hand-coding for web design, along with the incorporation of graphics into web sites and publishing. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 165 (3 credit hours)

### Video-Game Level Design

Examines the process of creating specific environments for game-play experiences in video-games. Contrasts the differences between game design and level design, psychological foundations for interactions with game-play environments, narrative and story essentials, and world-building. Explores the fundamentals of writing for video-games, game theory, video-game story structure, character creation, writing strategies and conventions, scripting, and the creative process for video-game writing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CIT124/IMD 124 or CIT 221/IMD 221.

**Co-requisite:** CIT 222/IMD 222.

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 180 (3 credit hours)

### Intermediate Web Design

Utilizes content management systems (CMS) for web design with an emphasis on custom theme development. Instructs students in basic CMS setup, administration, and theme design. Utilizes HTML, CSS, and photo-editing software within a CMS. Identifies fundamentals including website layout, navigation, font usage, color schemes, site architecture, with emphasis on creating websites that effectively communicate the desired content for employers and clients. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 133 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## IMD 210 (3 credit hours)

### Microsoft Office Applications

Presents advanced skills utilizing Microsoft Office applications for the creation, manipulation, and integration of information. Examines applications including word processing, spreadsheet, database management, and presentation. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 100 OR Digital Literacy Course OR Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 221 (3 credit hours)****Computer Graphics**

Introduces basic computer graphics with an emphasis on graphics for game design. Instructs students in practical aspects of graphics such as color, ray tracing, rasterization, shading, mapping, light, and shadow. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT105 OR IMD100 OR Consent of Instructor.

**Co-requisite:** CIT124 OR IMD124 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 222 (3 credit hours)****3D Modeling for Video Games**

Instructs students in the use of industry-standard 3D modeling software specific to the video-game industry. Emphasizes both architectural and character modeling. Familiarizes the student with key 3D modeling concepts and methods, workflow, and the creation and preparation of 3D assets for use specifically in a video-game application. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT 221 OR IMD 221 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 223 (3 credit hours)****3D Animation for Video Games**

Exposes students to the specialized process of animating 3D assets for gaming applications. Familiarizes students with animating both organic and inorganic assets, lighting scenes, rendering and producing cut-scenes, and preparing character assets for in-game motion. Allows students to acquire the necessary skills and techniques to integrate audio with their animations using basic sound-engineering software and processes. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor.

**Co-requisite:** CIT 273 OR IMD 273 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 226 (3 credit hours)****Advanced Desktop Publishing**

Requires the demonstration of vital pre-press and print production knowledge necessary for successful output of commercial graphic design projects. Emphasizes raster image creation, editing, and preparation for output, offset printing processes, color separations, spot color usage and preparation, vector graphic usage, font usages and standards, PDF document creation and preparation, and advanced desktop publishing techniques. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 126 and IMD 127 and IMD 128.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 228 (3 credit hours)****Advanced Photoshop**

Introduces advanced techniques for manipulating and editing raster (photo or pixel-based) graphics using industry-standard application(s). Examines new software features, advanced methods for file optimization and color correction, making complex selections and combining multiple images to create works of art, as well as development of a professional portfolio of raster art and photo editing and manipulation samples. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 115 and IMD 128.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 229 (3 credit hours)****Advanced Illustrator**

Introduces advanced techniques for the creation of vector-based (Bezier-geometry-based) artwork, including techniques for high-end illustrative and artistic projects. Emphasizes working with painterly and naturalistic brushes, photo-realistic vector-based image creation, advanced gradient mesh usage, advanced 3D techniques, integration with Adobe Flash, advanced workflow procedures, and other techniques intended for intermediate to advanced Adobe Illustrator users. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 127.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 230 (3 credit hours)****Advanced Web Design**

Explores existing and emerging web technologies through the role of web designers. Covers HTML, CSS and content management systems (CMS) for responsive web design. Instructs students in responsive website development using HTML, CSS and photo-editing software. Students will conclude the course via the creation of a comprehensive, dynamic, responsive website utilizing current technologies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IMD 180 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 232 (3 credit hours)****Web Design with Adobe Dreamweaver**

Utilizes an advanced web authoring software application for design and development. Uses a professional WYSIWYG (what-you-see-is-what-you-get) editor to develop and create web pages, automate production, and manage and maintain entire websites. Builds XHTML, CSS, and web development knowledge to customize features and integrate applications. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IMD 133 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 240 (3 credit hours)****Multimedia Development for the Web**

Introduces students to the design and delivery of interactive and media-rich websites using professional, industry-standard software and web development technologies. Covers creating and integrating animation into web design, along with developing increasing interactivity and adding audio and video into a website. Covers publishing and integration with other web development applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 133 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 250 (3 credit hours)****Digital Video Editing I**

Covers the essentials of digital video within cinematic arts, including logging, capturing, editing, and basic compositing. Students will capture and edit digital video using industry-standard desktop video software and export to DVD and the Internet for use in entertainment, documentary films, commercials, and newscasts. Students will learn to storyboard, plan, and produce a digital video project from conception to final packaging. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**IMD 255 (3 credit hours)****Digital Video Editing II**

Covers advanced techniques within cinematic arts and editing such as multi-cam editing, color correction, advanced compositing, basic audio editing and production, alpha channels, and special effects. Building on Digital Video Editing I, students will also focus on creating storyboards, quicker workflows, and trim editing using an industry-standard software program. Increased levels of pacing, timing, continuity, and visual aesthetics are emphasized. Students will shoot and edit their own video footage in this course. Cameras will be provided. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 250 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 258 (3 credit hours)****Visual Effects for Video**

Covers the creation of visual effects in cinematic arts including basic animation with text and 2D objects and 3D object creation and animation using an industry-standard visual effects software program. Students will focus on animating layers and working with masks, distortion, color correction, motion stabilizing, and particle simulation. Projects will be exported and packaged for the web and DVD. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** IMD 250 or consent of instructor.

**Components:** LEC: Lecture

**IMD 270 (3 credit hours)****Professional Practices**

Designed to assist students develop strategies for entering the Information Management & Design profession by editing and refining portfolios and creating correspondence to meet professional standards, designing resumes and other self-promotional materials, developing a job search strategy, practicing interview techniques, and professional presentations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** sophomore status & preparing for job search.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 271 (1-3 credit hours)****Internship**

Requires a minimum of 40 clock hours per credit hour of on-the-job experience to include a learning plan agreed upon by the student, instructor, and site supervisor. Practicum: 1.0 -3.0 credits (40-120 contact hours).

**Pre-requisite:** Consent of Instructor, 2.0 GPA, IMD 270 and the completion of 9 additional credit hours of IMD course work.

**Attributes:** Technical

**Components:** PCM: Practicum

**IMD 273 (3 credit hours)****Game Production**

Provides students with the opportunity to produce a fully playable 3D video game using assets and materials created in previous courses; employs an industry-standard game engine to meld 3D content, audio, narrative, character, and environment into a professional and enjoyable video game experience. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor.

**Co-requisite:** CIT 223 OR IMD 223 OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 274 (3 credit hours)****Seminar in Game Development**

Encompasses the three phases of game design and development: conception, creation, and marketing in this project-oriented seminar. Requires participation in class presentations, individual and group projects, development of a game, and a portfolio. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((CIT 223 OR IMD 223) AND (CIT 273 OR IMD 273)) OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 275 (3 credit hours)****Information Management and Communications**

Introduces management principles and techniques as they apply to various types of businesses. Includes research emphasis on information management, team concepts, personnel management, communications and business plans. Explores concepts within freelance, small business, and corporate entities. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 277 (3 credit hours)****Typography**

Explores the use of typography in the context of graphic design and discover the importance of type as a tool for visual problem solving and communication. Explores origins of typography, font usage, the anatomy and different kinds of type, software used for type manipulation, and how basic principles and elements of design (color, hierarchy, form, rhythm, etc.) are applied to typography. Requires the development of portfolio of individual typography-based designs. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (IMD 115 and IMD 126 and IMD 127 and IMD 128) or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 280 (3 credit hours)****Portfolio Practicum: Graphic Design**

Provides an opportunity to assemble a comprehensive graphic design portfolio using skills learned within the IMD Graphic Design core courses, which will assess students overall graphic design skills. Provides IMD students with a professional design portfolio to aid in the search for employment. Provides the capstone for students choosing the graphics option. Uses presentation, vector, raster, and desktop publishing software to create design-intensive portfolio pieces. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (IMD 127 and IMD 128 and IMD 185 and IMD 226) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMD 290 (3 credit hours)****Photography**

Teaches students basic photography principles and skills to compose technically proficient photographs. Emphasis is on basic camera operations, with exploration of film speeds, apertures, and shutter speeds. Explores composition and elements of lighting. Uses slide lectures, a brief overview of contemporary photography to acquaint students with past and current photography. Lecture: 3 Credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



# Health Care Foundations (HST)

## HST 101 (3 credit hours)

### Health Care Basic Skills I

Introduces student to basic health care skills such as measuring and recording vital signs, assisting licensed personnel, observing and reporting patient conditions, collecting specimens and caring for the hygiene, comfort, and safety of patients in various settings. Prepares the student for entry-level health care positions by incorporating certification for American Heart Association Cardiopulmonary Resuscitation (CPR). Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).  
**Components:** LAB: Laboratory, LEC: Lecture

## HST 102 (3 credit hours)

### Health Care Delivery & Management

Introduces delivery and management of health care including professionalism, health care roles, health care delivery models, and types of health care coverage. Explores legal/ethical issues including HIPAA and confidentiality, electronic medical records and patients' rights as well as analysis of current trends in health care today. (Appropriate for any student considering entering the Allied Health or Nursing field.) Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HST 103 (2 credit hours)

### Health Care Communication

Introduces communication and its various forms as it exists in the health care field. Focuses on verbal, nonverbal, written and oral communication between members of the health team, patient, and caregivers through an interdisciplinary approach. Examines each role with discussion from the perspective of the involved parties. Emphasizes diversity, sociocultural influences, and teamwork. Includes discussion of the media's role in health care, as well as how health promotion campaigns may be implemented and managed. Appropriate for anyone interested in a career in allied health or nursing. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HST 104 (3.5 credit hours)

### Health Care Basic Skills I with Clinical

Introduces student to basic healthcare skills such as: measuring and recording vital signs, assisting licensed personnel, observing and reporting patient conditions, collecting specimens and caring for the hygiene, comfort, and safety of patients in various settings. Prepares the student for entry level healthcare positions by incorporating certification for American Heart Association Cardiopulmonary Resuscitation (CPR). Prepares student for the State Registered Nurse Aide examination. Note: Faculty and clinical sites must comply with applicable Federal and Kentucky laws and regulations including but not limited to 42 USC 1396r and 907 KAR 1:450. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours). Clinical: 0.5 credits (23 contact hours).

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

## HST 121 (2 credit hours)

### Pharmacology

Introduces students to the basics of pharmacology/pharmacokinetics, include terms used to describe various effects and reactions from drug usage. Will also introduce metric system and basic dosage calculations common to most fields of study within allied health and nursing. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HST 122 (3 credit hours)

### Clinical Pathophysiology

Explores an introduction to the nature of disease and its effect(s) on body systems. Provides a study of pathology and general health management of diseases and injuries across the lifespan. Includes topics of etiology, symptoms, physical and psychological reactions to diseases and injuries. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BIO 137 or BIO 135.

**Attributes:** Technical

**Components:** LEC: Lecture

## HST 123 (2 credit hours)

### Health Care Basic Skills II

Builds on basic health care skills by incorporating previous learning into more advanced concepts and higher level skills. Emphasizes care of patients with common health problems throughout the lifespan. Prepares students to independently perform skills such as blood sugar monitoring, running an electrocardiogram, urinary catheterization and enemas, collecting blood for lab tests and preparing patients and instruments for surgery, treatment or examination. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** HST 101.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

# Health Care Specialist (HCS)

## HCS 100 (2 credit hours)

### Public Healthcare in the US

Introduces the organization of US healthcare and public health services including public policy, healthcare and health services, interrelationships, professional roles, legal and regulatory issues, and payment systems. Reviews health reform initiatives in the US. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HCS 110 (1 credit hours)

### Culture of Healthcare

Covers job expectations and roles of clinical personnel in a healthcare setting. Discusses healthcare organization inside a practice setting, privacy laws, professional and ethical issues encountered in the workplace, and common form of care delivery. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HCS 125 (1 credit hours)

### History in Healthcare

Introduces the concept of "meaningful use" of electronic health records as well as the development and background of the IT landscape in health care and public health, including experiments from the 1950s and 1960s culminating in the HITECH Act. Lecture: 1.0 credits (15 contact hours)

**Components:** LEC: Lecture

## HCS 145 (1 credit hours)

### Health IT Terminology

Explains terminology used by workers in health care, public health, or those who work with Health IT systems including common medical terms, technology systems, health data standards, and clinical terminology. Lecture: 1.0 credits (15 contact hours).

**Pre- or co-requisite:** AHS 115 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 150 (2 credit hours)****Health IT Analysis & Quality**

Introduces concepts of Health IT and practice workflow process analysis and redesign. Addresses how establishing a culture to support increased quality and safety is critical in the healthcare environment. Discusses the approaches to assessing patient safety issues, implementing quality management, and reporting through electronic systems. Lecture: 2.0 credits (30 contact hours).

**Pre- or co-requisite:** CIT 105 AND HCS 145, or consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 165 (2 credit hours)****Health Management Systems**

Covers specific health care and public health applications. Introduces Health IT standards, health-related data structures, software applications, enterprise architecture in health care, and public health organizations. Lecture: 2.0 credits (30 contact hours).

**Pre- or co-requisite:** CIT 105 AND HCS 145, or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 180 (1 credit hours)****Usability and Human Factors**

Introduces rapid prototyping, user-centered design and evaluation, and usability. Emphasizes the effects of new technology and workflow on downstream processes, as well as facilitation of a unit-wide focus group or simulation. Lecture: 1.0 credits (15 contact hours).

**Pre- or co-requisite:** CIT 105 AND AHS 115 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 200 (1 credit hours)****Health IT Computer Systems**

Provides an intermediate overview of computer architecture, data organization, representation, structure of programming languages, networking, and data communication about Health IT Systems. Lecture: 1.0 credits (15 contact hours).

**Pre- or co-requisite:** CIT 105 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 210 (3 credit hours)****Implementing Health IT Systems**

Introduces the OSI model, including the purpose and content of each of its seven layers as well as hardware, processes, protocols, and tools at each layer. Provides a practical experience that will address approaches to assessing, selecting, and configuring EHRs (electronic health records) to meet the specific needs of customers and end-users. Emphasizes the principles underlying system configuration, including system selection, planning, testing, troubleshooting, and final deployment. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** AHS 145 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 220 (1 credit hours)****Working with HIT Systems**

Identifies the components of Health IT systems and their applications. Introduces the potential threats to security and need for standards, high levels of usability, and awareness of how errors can occur. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 230 (2 credit hours)****Vendor-Specific Systems**

Provides an in-depth discussion in Vendor-Specific Systems, focusing specifically on system and database architectures used in commercial Electronic Health Records (EHRs), vendor strategies for terminology, knowledge management, ways to assess decision support capabilities of EHRs, and vendor-specific training (go-live strategies). Lecture: 2.0 credits (30 contact hours)

**Pre- or co-requisite:** HCS 200 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 260 (1 credit hours)****Health IT Instructional Design**

Examines Health IT learning management systems, instructional design software tools, teaching techniques and strategies, evaluation of learner competencies, maintenance of training records, and measurement of training program effectiveness. Lecture: 1.0 credits (15 contact hours)

**Pre- or co-requisite:** HCS 165 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 280 (1 credit hours)****Project Management & Teams**

Introduces project management tools and techniques that result in the ability to create and follow a project management plan. Emphasizes the value of being "team players" by understanding roles, the importance of communication, and group cohesion. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 281 (1 credit hours)****Health IT Customer Service**

Develops customer service skills to encourage effective communication across the team. Introduces roles that will be encountered in healthcare and public health settings. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 290 (1 credit hours)****Leadership for Health IT**

Develops the processes and skills for leadership roles and effective management of teams. Emphasizes the leadership modes and styles best suited to Health IT system deployment. Lecture: 1.0 credits (15 contact hours).

**Pre- or co-requisite:** HCS 150 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HCS 295 (1 credit hours)****Health IT Capstone**

Serves as the capstone course for the certificate program. Integrates prior learning outcomes into a single integrated learning experience. Includes preparation for and completion of the end of program assessment for the Health Care Specialist Certificate. Lecture: 1.0 credits (15 contact hours)

**Pre- or co-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

# Health Facilities Orientation (HFO)

## HFO 100 (1 credit hours)

### Healthcare Facilities Orientation

Provides a comprehensive overview of the healthcare physical environment to include infection prevention, interim life safety, pre-construction risk assessment, blood borne pathogens, healthcare specific OSHA awareness, special permitting, emergency preparedness, ventilation requirements, & utility system shutdown protocols. Provides insight for those considering enrollment into academic credentials specific to healthcare facilities support roles such as engineering, security, emergency management, environmental services, dietary, safety, biomedical engineering, or construction management. Benefits anyone working or seeking to work in healthcare. Lecture 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

# Health Information Technology (HIT)

## HIT 100 (3 credit hours)

### Introduction to Health Information Technology

Includes history, organization, financing and delivery of health care services within a variety of settings. Explores the roles of a health information professional, an introduction to legal aspects of insurance billing and the role of the State Insurance Commission. Covers information on the generic components of the content, structure, collection, maintenance, and dissemination of health care data and how these components relate to record systems and documentation standards. Pre-requisite Or Minimum grade of C. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Admission to the Health Information Technology Program or Medical Record Coding Specialist Certificate or Release of Information Data Specialist Certificate or by special permission of the Program Coordinator and Computer Literacy.

**Co-requisite:** [(BIO 135 or BIO 137) and (CLA 131 or AHS 115 or MIT 103)].

**Attributes:** Technical

**Components:** LEC: Lecture

## HIT 105 (4 credit hours)

### Pathophysiology / Pharmacology for Health Information Professionals

Provides an overview of pathophysiology content, review of disease terminology, and clinical presentation with the application of pharmacology to treat human diseases as it relates to the field of health information technology. Minimum grade of C. Lecture: 4.0 credits (60 contact hours).

**Pre- or co-requisite:** [HIT 100 and (BIO 135 or BIO 137) and (CLA 131 or AHS 115 or MIT 103)].

**Attributes:** Technical

**Components:** LEC: Lecture

## HIT 109 (4 credit hours)

### Clinical Classification Systems I

Applies current government-mandated diagnosis and procedure coding systems in a health care setting. Minimum grade C. Minimum grade C. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** HIT 105.

**Pre- or co-requisite:** BIO 139 (If BIO 137 taken).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## HIT 110 (2 credit hours)

### Legal & Ethical Issues in Health Information

Includes legal principles and issues that govern health information management and patient medical records. Covers ethical issues as they relate to the security and dissemination of patient health information and corporate compliance programs. Pre-requisite Or Minimum grade of "C". Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Admission to the Health Information Technology Program or Medical Record Coding Specialist Certificate or Release of Information Data Specialist or by special permission of the Program Coordinator.

**Co-requisite:** HIT 100.

**Attributes:** Technical

**Components:** LEC: Lecture

## HIT 112 (3 credit hours)

### Reimbursement Methodologies

Introduces the uses of coded data and health information reimbursement and payment systems appropriate to all health care settings including managed care. Includes a history of major U. S. insurance developments. [Computer/Digital Literacy and (BIO 135 or BIO 137) and HIT 100 and HIT 105]. Minimum grade of C. Pre-requisite Or Minimum grade of C. Lecture 2.5 credits (37.5 contact hours). Lab: 0.5 credits (15 contact hours).

**Pre-requisite:** Admission to the Health Information Technology Program or Medical Record Coding Certificate or by special permission of the Program Coordinator.

**Co-requisite:** BIO 139 (if BIO 137 was taken).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## HIT 200 (3 credit hours)

### Information Systems in Health Care

Covers the concepts of computer technology related to the healthcare industry and the tools and techniques for collecting, storing, retrieving, and analyzing health care data. Minimum grade of "C". Pre-requisite Or Minimum grade of "C". Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credits (15 contact hours).

**Pre-requisite:** Admission to the Health Information Technology Program or Medical Record Coding Specialist Certificate or by special permission of the Program Coordinator and (HIT 109 and HIT 110 and HIT 112).

**Co-requisite:** (CIT 130 or OST 240).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## HIT 202 (3 credit hours)

### Clinical Classification Systems II

Includes Current Procedural Terminology (CPT) coding system and the study of hospital based reimbursement issues. Uses a microcomputer and software to apply medical coding procedures. (Computer/Digital Literacy and HIT 109). Minimum grade of C. Pre-requisite Or Minimum grade of C. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Admission to the Health Information Technology Program or Medical Record Coding Specialist Certificate or by special permission of the Program Coordinator.

**Co-requisite:** (BIO 139 if BIO 137 was taken).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**HIT 205 (3 credit hours)****Quality Mgmt & PI - Health Info**

Examines principles of performance improvement as it relates to health information technology. Integrates data collection, analyses, evidence-based care, implementation of performance improvement processes, and examines regulatory, accrediting organization, and payor requirements including payment. Minimum grade of C. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** HIT 109 and HIT 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**HIT 207 (3 credit hours)****Clinical Classification Systems III**

Introduces the advanced application of clinical classification systems in the reimbursement for health care services and specialty systems such as RBRVS, OASIS, RUGs, Cancer Registry, etc. Reviews fraud, abuse, and regulatory agency requirements relating to coding and billing. Minimum grade of "C". Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** HIT109 and HIT 202.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**HIT 211 (3 credit hours)****Health Care Management and Statistics**

Introduces the principles of organization, supervision, leadership, motivation, and team building within the health information environment. Applies concepts of descriptive statistics, data validity, reliability, and the appropriate use and interpretation of applied health care statistics including the use, collection, arrangement, analysis, presentation and verification of health care data. Minimum grade of "C". Minimum grade of "C". Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HIT 109 and HIT 110.

**Pre- or co-requisite:** HIT 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**HIT 215 (4 credit hours)****Clinical Practicum**

Introduces the student to the clinical practice of health information review, documentation and supervision within a health information management (HIM) department. Observes and assists personnel in assigned areas of job responsibility within the HIM Department. Provides student with onsite project. Exposes student to HIM roles in other departments (e.g., quality, CDM, Cancer Registry, compliance, risk management). A minimum grade of "C" in all HIT courses or consent of program coordinator. Practicum: 4 credits (180 contact hours).

**Pre-requisite:** HIT 200 and HIT 202 and HIT 205.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** PCM: Practicum

**HIT 299 (0.5-4 credit hours)****Selected Topics in Health Information Technology: (Topic)**

Addresses various health information technology topics, issues, and trends. Includes topics that may vary from semester to semester at the discretion of the instructors; course may be repeated with different topics to a maximum of four credit hours. Lecture: 0.5 - 4.0 credits (7.5 - 60.0 contact hours). Lab: 0.5 - 4.0 credit hours (15 -20 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**HIT 2151 (2 credit hours)****Clinical Practicum I**

Continues the clinical practice of health information review, documentation and supervision within a health information management (HIM) department. Provides observation and assists personnel in assigned areas of job responsibility within the HIM Department. Minimum grade of "C" in all HIT courses or Consent of Program Coordinator. Practicum: 2 credits (90 contact hours).

**Pre-requisite:** HIT 200 and HIT 202 and HIT 205.

**Components:** PCM: Practicum

**HIT 2152 (2 credit hours)****Clinical Practicum II**

Introduces the student to the clinical practice of health information review, documentation and supervision within a health information management (HIM) department. Provides observation and assists personnel in all assigned areas of job responsibility within the HIM Department. Minimum grade of C in all HIT courses or Consent of Program Coordinator. Practicum: 2 credits (90 contact hours).

**Pre-requisite:** HIT 200 and HIT 202 and HIT 205.

**Components:** PCM: Practicum

## Health Mathematics Fundamentals (FHM)

**FHM 100 (2 credit hours)****Dosage Calculations**

Provides an overview of basic math skills, a thorough knowledge of the system of measurement and conversion, and application skills to perform dosage calculations. Emphasis is placed on unit analysis to calculate medication dosages. Lecture: 2 credits (30 contact hours).

**Attributes:** Enrichment Course Other, Technical

**Components:** LEC: Lecture

## Health Sciences Education (HSE)

**HSE 101 (1 credit hours)****Introduction to Health Sciences**

Provides students with information and career options about allied health and sciences programs including presentations by allied health practitioners. Students will research selected health profession/careers and allied health and sciences educational programs. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



# Healthcare Facility Management (HFL)

## HFL 100 (3 credit hours)

### Introduction to Healthcare Facility Management

Introduces students to Healthcare Facility Leadership by presenting an overview of the history and development of healthcare engineering. The student will: learn the importance of compliance with the various codes and standards applicable to the healthcare facility environment; explore the driving factors affecting the operations and maintenance of health care facilities; review the complexity of delivering engineering in a patient centered environment; gain understanding of the complex structure and reporting relationships that exist in the healthcare industry; understand how the facility environment impacts regulatory requirements, clinical needs, and financial bottom line of healthcare; and gain an understanding of his/her role within the facility management department and the hospital setting. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HFL 110 (2 credit hours)

### Introduction to Healthcare Industry

Introduces students to the healthcare industry by examining healthcare reporting relationships, organizational structures, personnel, facility types, department configurations, terminology, regulatory environment, and accreditation process. The course will also examine industry shifts related to an aging population and healthcare law changes. The student will have a clearer understanding of how to navigate the healthcare industry based on size and complexity. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HFL 120 (2 credit hours)

### Infection Control and Prevention

Examines the historical and evolving infection control complexities from both a clinical and physical environment perspective. Reviews changes the industry has taken to address this growing healthcare industry challenge. Studies how the physical environment and engineering practices during construction and maintenance impact infection control. Reviews infection control risk assessments and prevention documentation and techniques. Lecture 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## HFL 130 (3 credit hours)

### Compliance, Codes and Standards I

Introduces student to the various codes & standards, regulatory, and accreditation agencies in Healthcare. Takes into consideration local, state, and federal regulatory bodies such as Occupational Safety and Health Administration (OSHA), National Fire Protection Association (NFPA), Building Owners and Managers Association (BOMA), Center for Medicare and Medicaid Services (CMS), American Society for Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE), International Organization for Standardization (ISO), National Electrical Code (NEC), International Building Code (IBC), The Joint Commission, and the DNV. Examines the facility leader's role in coordination and participation in the accreditation and regulatory survey processes. Evaluates the role of a coordinator and participant in emergency management drill and training. Develops fire training and drill coordination documentation. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HFL 100.

**Attributes:** Technical

**Components:** LEC: Lecture

## HFL 140 (3 credit hours)

### Maintenance and Operations I

Examines and reviews mechanical, electrical, plumbing, medical gas, fire protection, building envelope, medical, steam, and security systems that comprise most healthcare facilities. Reviews computer systems and software such as building automation, fire systems, work order systems, and CAD/BIM used by facility engineering. Understands equipment inventory, entry control, and disposition. Develops maintenance program for buildings, equipment, utilities, and grounds. Reviews energy management and benchmarking. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HFL 100.

**Attributes:** Technical

**Components:** LEC: Lecture

## HFL 150 (3 credit hours)

### Planning, Design and Construction I

Covers project management delivery from concept, development, design, contracting, method, bidding, budgeting, equipment acquisition, specifications, and meeting management. Develops and reviews current Infection Control Risk Assessment (ICRA) practices and documentation. Develops and reviews Interim Life Safety Measures (ILSM) practices and documentation. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** HFL 100.

**Attributes:** Technical

**Components:** LEC: Lecture

## HFL 230 (3 credit hours)

### Compliance, Codes and Standards II

Examines the major codes, standards and regulatory rules that apply to the healthcare industry. Examines. National Fire Protection Association (NFPA) 101, 110, 99, 25, 20, 10; Facility Guidelines Institute (FGI) Guidelines; The Joint Commission Standards for accreditation; and how to maintain standard specific documentation and checklists for accreditation surveys. Develops and maintains medical equipment and utility system programs. Develops and conducts environmental rounds and surveys. Develop standard specific policies and procedures, such as National Fire Protection Association (NFPA) 99 electrical equipment safety inspection requirements. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HFL 130.

**Attributes:** Technical

**Components:** LEC: Lecture



**HFL 240 (3 credit hours)****Maintenance and Operations II**

Examines the administration and coordination of work order processes to include preventive maintenance, corrective maintenance, moves, and projects. Applies equipment risk assessments in developing a maintenance program. Tests, monitors, and documents air quality, air exchange, and pressure relationships. Maintain control access and key control systems. Manages policies and procedures. Develops competency based training programs. Manages low voltage systems ((Nurse call, Closed Circuit Television System (CCTV), patient monitoring, Radio Frequency Identification (RFID) etc.)). Understands Performance Improvement (PI) processes. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HFL 140.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFL 250 (3 credit hours)****Planning, Design and Construction II**

Examines the management, planning, monitoring, reporting, and closing out of projects. Emphasizes the management of drawing revisions, commissioning, equipment documentation, and hand off training. Details Change Order Request (COR) and Request For Information (RFI), as well as, reviewing the needs and requirements for space planning and allocation. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HFL 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFL 260 (3 credit hours)****Healthcare Facilities Leadership Capstone I**

Examines and applies Performance Improvement (PI) activities in healthcare engineering operations, maintenance, and project environment. Develops goals using S.M.A.R.T guidelines (Specific, Measureable, Assignable, Realistic, and Time bound). Develops and manages capital budgets, operating budgets recommendations. Generates financial, productivity and performance dashboards. Develops and implements equipment and systems training programs. Develops and monitors customized measures, indicators, and trends from computerized maintenance data. Lecture: 3.0 credits (45 contact hours)

**Co-requisite:** HFL 140.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFL 270 (3 credit hours)****Healthcare Facilities Leadership Capstone II**

Examines management of related healthcare engineering roles, such as fire safety, environment of care, waste management, emergency management, protection services, and environmental services. Examines management of Human Resource functions (e.g. competencies, disciplinary action, hiring, performance appraisals, terminations, scheduling, staff orientation, and job descriptions). Performs and participates in organizational strategic planning, SWOT (strengths, weaknesses, opportunities and threats) analysis, report writing and presentations. Examines the importance of networking and partnerships (e.g. peers, local authorities, state authorities, and industry experts). Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HFL 260 Healthcare Facilities Leadership Capstone I.

**Co-requisite:** HFL 240.

**Attributes:** Technical

**Components:** LEC: Lecture

# Heavy Equipment Operation (HEO)

**HEO 125 (3 credit hours)****Special Problems I**

Reinforces material presented in HEO 150, 200, and 250. Discusses job orientation, blueprint reading, and equipment operation. Pre-requisite Or Lab: 3.0 credits (90 contact hours).

**Co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 130 (5 credit hours)****Power Shovel Backhoe Operator**

Identifies and describes the common uses, types, components, instruments, controls, and attachments of backhoes. Presents safety guidelines, prestart inspection procedures, and preventive maintenance requirements. Describes basic startup and operation, and covers common work activities associated with backhoes. Laboratory: 5 credits (150 contact hours).

**Pre- or co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 131 (5 credit hours)****Bulldozer Operator**

Identifies and describes the common uses, types, and components of bulldozers. Presents safety guidelines, prestart inspection procedures, and preventive maintenance requirements. Describes basic startup and operation, and covers common work activities associated with dozers. Laboratory: 5 credits (150 contact hours).

**Pre- or co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 132 (5 credit hours)****Utility Tractor Loader Operator**

Covers operation of general utility tractors in the construction industry. Describes duties and responsibilities of the operator, safety rules for operation, the attachment of implements, and basic preventive maintenance practices. Laboratory: 5 credits (150 contact hours).

**Pre- or co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 133 (5 credit hours)****Motor Grader Loader Operator**

Identifies and describes the common uses and types of motor graders. Presents safety guidelines, prestart inspection procedures, and preventive maintenance requirements. Describes basic startup and operation, and covers common work activities associated with motor graders. Laboratory: 5 credits (150 contact hours).

**Pre- or co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 134 (5 credit hours)****Hydraulic Excavator Operator**

Identifies and describes the common types, uses, and components of excavators. Presents safety guidelines, prestart inspection procedures, and preventive maintenance requirements. Describes basic startup and operation, and covers common work activities associated with excavators. Laboratory: 5 credits (150 contact hours).

**Pre- or co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 141 (3 credit hours)****Heavy Equipment Operating I**

Instructs in the operation of heavy equipment such as bulldozers, backhoes, front-end loaders, graders, and scrapers. Explains techniques of operation such as digging, ditching, sloping, stripping, grading, backfilling, clearing fields, and foundation excavating. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LEC: Lecture

**HEO 211 (3 credit hours)****Heavy Equipment Operating II**

Reinforces material first presented in HEO 141. Provides intermediate instruction for students in the operation of heavy equipment such as bulldozers, backhoes, front-end loaders, graders, and scrapers. Practices techniques in digging, ditching, sloping, stripping, grading, backfilling, clearing trees and rubble, and foundation excavating. Demonstrates the proper care and maintenance of equipment. Laboratory: 3 credits (90 contact hours).

**Pre-requisite:** HEO 141.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 215 (1-4 credit hours)****Heavy Equipment Operations**

Provides students nearing graduation with valuable and expanded experience in Heavy Equipment Operation not allowable by the program's limited resources. Focuses on job awareness in addition to construction requirements. Permits the student to gain experience on industry's latest and largest equipment. Prerequisite: HEO 100 and Consent of Instructor (Students must be enrolled in the HEO program and be at least a second semester student or demonstrate prior experience and skills necessary for safe equipment operation.) Laboratory: 1-4 credits (45-180 contact hours).

**Attributes:** Course not offered in two years

**Components:** LAB: Laboratory

**HEO 225 (3 credit hours)****Special Problems II**

Reinforces material presented in HEO 150, 200, and 250. Instructs all facets of project control. Pre-requisite Or Lab: 3.0 credits (90 contact hours).

**Co-requisite:** DIT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HEO 231 (3 credit hours)****Heavy Equipment Operating III**

Reinforces material presenting in HEO 211. Provides advanced instruction in the operation of heavy equipment such as bulldozers, backhoes, front-end loaders, graders, and scrapers. Refines techniques in digging, ditching, sloping, stripping, grading, backfilling, clearing trees and rubble, and foundation excavating. Demonstrates in the proper care and maintenance of equipment. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** HEO 211.

**Attributes:** Technical

**Components:** LEC: Lecture

## Helicopter Flight Training (HFT)

**HFT 101 (4 credit hours)****Private Helicopter Pilot**

Covers fundamentals of helicopter flight, flight operations, aviation weather, performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, meteorology, and human factors. Prepares student for the helicopter FAA Private Pilot Airman Knowledge exam. Lecture: 4.0 credits (60 contact hours)

**Attributes:** Technical

**Components:** LEC: Lecture

**HFT 102 (2 credit hours)****Private Pilot Helicopter Flight Lab**

Introduces the student to the fundamentals of helicopter flight and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. Prepares students to take the Federal Aviation Administration Helicopter Private Pilot Practical Test Standards examination. Laboratory: 2.0 credits (60 contact hours)

**Pre-requisite:** HFT 101 and Proof of valid Second Class (or higher) Medical Certificate.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HFT 103 (4 credit hours)****Helicopter Instrument Pilot**

Prepares students for the helicopter FAA Instrument knowledge test and includes an in-depth study of aircraft flight instruments, basic attitude instrument flying, Instrument Flight Rules (IFR) navigation systems and procedures, aviation weather, applicable helicopter Federal Aviation Regulations (FAR), and the instrument charts required for IFR flight. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** HFT 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFT 104 (2 credit hours)****Helicopter Instrument Pilot Flight Lab**

Prepares students for the Helicopter FAA Instrument Flight Practical Test Standards exam and the Helicopter FAA Instrument Flight Rating. Includes in-depth demonstration of in-flight mastery of aircraft flight instruments. Features attitude instrument flying, IFR navigation and procedures, aviation weather procedures, applicable FARs, and mastery of the instruments required for IFR flight. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** HFT 101, HFT 102, and HFT 103.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HFT 105 (4 credit hours)****Helicopter Commercial Pilot**

Reviews the principles of helicopter flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the FAA Commercial Helicopter Pilot airman knowledge exam. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** HFT 101 or Private Pilot Certificate.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFT 106 (2 credit hours)****Commercial Helicopter Flight Lab**

Introduces student pilots to more advanced helicopter flight maneuvers and the practical application of in-flight aviation weather, aircraft performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. Complies with Federal Aviation Administration flight hour and certification requirements to qualify students to apply for the FAA Commercial Helicopter Pilot Practical Test Standard (PTS) examination. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** HFT 101, HFT 102, HFT 103, HFT 104, and HFT 105.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HFT 107 (4 credit hours)****Certified Helicopter Flight Instructor**

Reviews the principles of helicopter flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the helicopter FAA Certified Flight Instructor Airman Knowledge Exam. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** HFT 101 (or Private Pilot Certificate), HFT 102, HFT 103, HFT 104, HFT 105 and HFT 106.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFT 108 (2 credit hours)****Certified Helicopter Flight Instructor Lab**

Reviews student in-flight mastery of the principles of helicopter flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the FAA Helicopter Certified Flight Instructor Practical Test Standards (PTS) exam. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** HFT 101, HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, and HFT 107.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HFT 109 (4 credit hours)****Certified Helicopter Flight Instructor Instrument**

Reviews the principles of helicopter flight, aircraft systems, pertinent federal aviation regulations and airman publications and service in order to prepare the student for the FAA Certified Helicopter Flight Instructor Instrument airman knowledge exam. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** HFT 101 (or Private Pilot Certificate), HFT 101, HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, HFT 107 and HFT 108.

**Attributes:** Technical

**Components:** LEC: Lecture

**HFT 110 (2 credit hours)****Certified Helicopter Flight Instructor Instrument (CFII) Flight Lab**

Demonstrates a mastery of instructing the principles of helicopter flight, aircraft systems, pertinent federal aviation regulations, and airman publications and service in order to prepare the student for the FAA Helicopter Certified Flight Instructor Instrument Practical Standards Test (PST) examination. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** HFT 101, HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, HFT 107, HFT 108, and HFT 109.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Historic Preservation Technology (HPT)

**HPT 100 (3 credit hours)****Introduction to Historic Preservation**

Introduces historic preservation theory, history, and standards of practice through national and local case studies; related national and local agencies, organizations and legislation; and research of early American architecture. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** HPT 101.

**Components:** LEC: Lecture

**HPT 101 (2 credit hours)****Introduction to Historic Preservation Lab**

Provides an opportunity to practice historic preservation theory through on-site research, site surveys and recording techniques with an emphasis on assessing and planning rehabilitation and maintenance. Lab: 2.0 credits (60 contact hours).

**Co-requisite:** HPT 100.

**Attributes:** Technical

**Components:** LAB: Laboratory

**HPT 120 (2 credit hours)****Traditional Woodworking**

Presents traditional woodworking techniques, safe maintenance, and use of hand and power tools with hands-on training in fitting, fastening, and finishing a wood project. Lecture/Lab: 2.0 credits (52.5 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HPT 200 (2 credit hours)****Masonry Repointing and Repair**

Introduces masonry materials and repair techniques for historic structures with an emphasis on brick and stone masonry and hands-on repair/repointing. Lecture/Lab: 2.0 credits (52.5 contact hours).

**Pre-requisite:** ISX 100 or ISX 101 or Consent of Instructor.

**Components:** LEC: Lecture

**HPT 202 (2 credit hours)****Window Restoration and Repair**

Presents the process for the removal, repair, and reinstallation of windows in historic properties, including types and components, energy efficiency, safe work practices, basic tools, and glazing techniques. Lecture/Lab: 2.0 credits (52.5 contact hours).

**Pre-requisite:** ISX 100 or ISX 101 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HPT 204 (2 credit hours)****Roof Restoration and Repair**

Covers pre-World War II roof designs and materials with a focus on repair and maintenance of roofs on historic buildings. Emphasizes fall protection systems and setup procedures for scaffolding and ladders. Lecture/Lab: 2.0 credit hours (52.5 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HPT 298 (2 credit hours)****Field Experience Practicum**

Provides an opportunity for the refinement of techniques and skills acquired in the previous historic preservation courses through non-compensated, supervised on-the-job experience or campus work assignments related to the student's educational and career training objectives. Practicum: 2.0 credits (90 contact hours).

**Pre-requisite:** [(ISX 100 or ISX 101) and HPT 100 and HPT 101] or Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

## History (HIS)

**HIS 101 (3 credit hours)****World Civilization I**

Presents a multicultural survey of world cultures and global issues from ancient to medieval times. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 102 (3 credit hours)****World Civilization II**

Presents a multicultural survey of world cultures and contemporary global issues from 1600 to the present. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 104 (3 credit hours)****A History of Europe Through the Mid-Seventeenth Century**

Surveys the development of European politics, society, and culture from the beginnings of civilization through the Age of Religious Conflict. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 105 (3 credit hours)****A History of Europe from the Mid-Seventeenth Century to the Present**

Surveys the development of European politics, society, and culture from the Age of Absolutism to the present. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 106 (3 credit hours)****Western Culture: Science and Technology I**

Surveys the interactions of science and technology with the social and cultural development of Western civilization to the Industrial Revolution. Emphasizes the values in scientific inquiry as compared with other kinds of inquiry and the importance of science and technology in modifying social organization and human expectations. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 107 (3 credit hours)****Western Culture: Science and Technology II**

Surveys the interactions of science and technology with the social and cultural development of Western civilization since the Industrial Revolution. Emphasizes the values in scientific inquiry as compared with other kinds of inquiry and the importance of science and technology in modifying social organization and human expectations. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 108 (3 credit hours)****History of the United States Through 1865**

Examines key political, economic, and social topics that have significantly influenced the American experience from the pre-colonial period through the Civil War era. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Course Also Offered in Modules

**Components:** LEC: Lecture

**HIS 109 (3 credit hours)****History of the United States Since 1865**

Examine key political, economic, and social topics that have influenced significantly the American experience from Reconstruction through the contemporary era. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Course Also Offered in Modules

**Components:** LEC: Lecture

**HIS 120 (3 credit hours)****The World at War, 1939-45**

Covers a global overview of the events of the Second World War, including consideration of the conflicts military, diplomatic, political, social, and economic dimensions. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 202 (3 credit hours)****History of British People to the Restoration**

Surveys the major political, social, economic, and cultural developments in British history from the pre-Roman era through the Stuart Dynasty. Includes examination of such topics as the Norman conquest, the Plantagenet Dynasty, the Hundred Years War, War of the Roses, the Tudors Monarchs, the Protestant Reformation, the Stuart Kings, Puritan Revolution, and the Restoration. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 203 (3 credit hours)****History of the British People Since the Restoration**

Covers the major political, social, economic, and cultural developments in British history from the Stuart period to the present. Includes examination of such topics as the Glorious Revolution, Imperial Wars, American Revolution, Napoleonic Wars, Industrial Revolution, Imperialism, World War I, Great Depression, World War II, Cold War, Decolonization, Post-War Britain, and the European Union. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture



**HIS 206 (3 credit hours)****History of Colonial Latin America**

Surveys the social, economic, political and cultural development of Latin America from the fifteenth century to 1810 with an emphasis on pre-Columbian societies, the Iberian kingdoms in the Age of Expansion, the conquest and colonization of the indigenous cultures of the New World, the establishment of Spanish and Portuguese institutions, the relations between the Church and the State, the encomienda and the hacienda, slavery and the impact of the Bourbon Reforms on Latin America. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 207 (3 credit hours)****History Modern Latin America, 1810 to Present**

Covers the history of the Latin American nations focusing on their social, economic, political and cultural development. Emphasizes the history of the independence movements, nation building, the struggle for modernization, dependency and the phenomenon of revolution since 1810. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 215 (3 credit hours)****Historical Perspectives on Prisons and Police Work**

Examines historical development of law codes, police work and prisons since the ancient world, with emphasis on the early modern period to the present. Develops an understanding of current practices in criminology, placing emphasis on the evolving conceptions of the causes of and cures for criminal behavior, and the professionalization of police and corrections personnel. Lecture: 3.0 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Other

**Components:** LEC: Lecture

**HIS 220 (3 credit hours)****Native American History: Pre-Contact to 1865**

Surveys the struggle of Native Americans from pre-colonial times to 1865. Emphasizes the indigenous Native American culture and society, the Columbian and biological exchange, Indian-Anglo cultural interactions, the construction and reconstruction of Indian identities, U.S. Indian policy development, and forced Indian removal. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 221 (3 credit hours)****Native America History: 1865 to Present**

Surveys the struggle of Native Americans from 1865 to the present times. Emphasizes the indigenous Native American culture and society, Indian-Anglo cultural interactions, the construction and reconstruction of Indian identities, and the struggles for the Great Plains and the Great Basin. Assesses the U.S. Indian policy development in relation to forced Indian removal, Americanization plan, educational assault on Indian children, termination policy, and sovereignty. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 240 (3 credit hours)****History of Kentucky**

Surveys the chief periods in Kentucky's growth and development from 1750 to the present focusing on the social, economic, cultural, and political trends of each region. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 247 (3 credit hours)****History of Islam and Middle East Peoples, 500-1250 A.D.**

Surveys the origins and development of the Islamic civilization from the time of the Prophet Muhammad to 1250, with special emphasis on the role of the Arab, Iranian, and Turkic peoples.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 248 (3 credit hours)****History of Islam and Middle East Peoples, 1250 to the Present**

Surveys the religion and institutions of the Islamic world in the Middle East with emphasis on the Mongol, Ottoman, Safavid, and Qajar Empires. Includes the demise of these empires, the response of the Middle East peoples to European imperialism, and the development of the Middle East since 1250. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 254 (3 credit hours)****History of Sub-Saharan Africa**

Surveys the major social, religious, cultural, economic, and political trends in Sub-Saharan African history since the 16th century. Includes the impact of the Atlantic slave trade, European imperialism, and 20th century wars on Sub-Saharan Africa. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 260 (3 credit hours)****African American History to 1865**

Studies the African American experience through the Civil War. Examines African heritage, slavery, and growth of African American institutions. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 261 (3 credit hours)****African-American History 1865 - Present**

Examines the African American experience from Reconstruction to the present, with emphases on the rise of segregation, the Civil Rights Movement, and race relations into the twenty-first century. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 265 (3 credit hours)****History of Women in America**

Surveys the history of American women, with particular emphasis on the mid-19th century to the present. Includes the major themes of family, work, social ideas about women, and feminism. Lecture: 3 credit hours (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 266 (3 credit hours)****History of American Women to 1920**

Emphasizes the fight for women's suffrage to 1920. Includes Amerindian women, immigrant women, the changing nature of the family and work, and societal ideas about women. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture



**HIS 267 (3 credit hours)****History of American Women from 1920**

Emphasizes equal rights and the civil rights movements. Includes the rejection of feminism in the 1920s, and 1970s, the changing nature of the family and work, and societal ideas about women. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HIS 271 (3 credit hours)****Medieval Europe**

Surveys European history from the fourth century through the fifteenth century. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Sophomore standing.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 295 (3 credit hours)****East Asia to 1800**

Presents a survey of Chinese, Japanese, and Korean history from the earliest times to 1800. Emphasizes political, economic, social, and intellectual developments. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 296 (3 credit hours)****History of Asia II**

Surveys the major civilizations of Asia. Focuses on the key political, social and cultural developments of the major peoples from the beginnings of western influence in Asia to the present. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Sophomore standing or consent of instructor.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HIS 299 (1-3 credit hours)****Special Topics in History: (Topic)**

Provides an in-depth study of a selected topic/area in History. Lecture: 1-3 credits (15-45 contact hours).

**Pre-requisite:** Sophomore standing or Consent of Instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**HIS 1081 (0.75 credit hours)****Colonial America**

Examines key political, economic, and social topics from the pre-colonial period through settlement and colonization that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**HIS 1082 (0.75 credit hours)****The Early Nationalist Period**

Examines key political, economic, and social topics from the Revolution through the early national period that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**HIS 1083 (0.75 credit hours)****Growth and Prosperity**

Examines key political, economic, and social topics during the Antebellum period that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**HIS 1084 (0.75 credit hours)****Sectionalism and Civil War**

Examines key political, economic, and social topics from sectional conflict through the Civil War that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**HIS 1091 (0.75 credit hours)****History of the United States through the Gilded Age**

Examines key political, economic, and social topics from Reconstruction through the Gilded Age that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Components:** LEC: Lecture

**HIS 1092 (0.75 credit hours)****History of the United States from Imperialism through World War I**

Examines key political, economic, and social topics from the Progressive Era through World I and the 1920s that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** HIS 1091.

**Components:** LEC: Lecture

**HIS 1093 (0.75 credit hours)****History of the United States from the Twenties to the Onset of the Cold War**

Examines key political, economic, and social topics from the Depression and New Deal through World II that have significantly influenced the American experience. Lecture: 0.75 credit (11.25 contact hours).

**Pre-requisite:** His 1092.

**Components:** LEC: Lecture

**HIS 1094 (0.75 credit hours)****History of the United States during the Cold War to the Present**

Examines key political, economic, and social topics from the Cold War and Civil Rights through the Rise of Conservatism that have significantly influenced the American experience. Lecture: 0.75 credits (11.25 contact hours).

**Pre-requisite:** HIS 1093.

**Components:** LEC: Lecture

## Homeland Security-Emergency Management (HSM)

**HSM 100 (3 credit hours)****Introduction to Homeland Security**

Introduces the history and organizational development of the US Department of Homeland Security. Examines the roles and functions of the components of Homeland Security and their relationships to state and local agencies. Investigates current trends and career opportunities in homeland security. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**HSM 110 (3 credit hours)****Introduction to Emergency Management**

Introduces the field of emergency management and the incident command system, including the terminology and definitions used in emergency and disaster management. Examines four phases of emergency management and disaster planning: mitigation, response, recovery, and preparedness. Examines legal requirements, responsibilities, and laws pertaining to emergency management. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## Honors (HNR)

**HNR 101 (3 credit hours)****Intro to Contemporary Thought**

Introduces the development and impact of contemporary social, scientific, and philosophical thought from an interdisciplinary perspective. Gives attention to various historical and modern figures, relating their ideas and theories to our contemporary understanding of a variety of issues. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Admission in the Honors program.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

## Honors (HON)

**HON 101 (3 credit hours)****The Ancient World**

From Greek and Roman antiquity to the early Christian centuries: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Membership in the Honors Program.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HON 102 (3 credit hours)****The Medieval and Renaissance World**

From the Middle Ages through the Reformation: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Written assignments required. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Membership in the Honors Program.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HON 201 (3 credit hours)****The Early and Modern World**

From the development of the modern scientific method through mid-19th century industrialism: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Membership in the Honors Program.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HON 202 (3 credit hours)****The Contemporary World**

The contemporary world: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Membership in the Honors Program.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

## Honors (HRS)

**HRS 101 (3 credit hours)****An Integrated Survey of Western Civilization I**

An honors course designed to provide an opportunity for the interested student to study the development of Western Civilization as reflected in the literary, artistic, musical, philosophical, political, and economic developments and movements of the major western cultures from ancient times through the Roman Empire. Lecture: 3 hours.

**Pre-requisite:** Consent of instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HRS 102 (3 credit hours)****An Integrated Survey of Western Civilization II**

An honors course designed to provide an opportunity for the interested student to study the development of Western Civilization as reflected in the literary, artistic, musical, philosophical, political, and economic developments and movements of the major western cultures from the Roman Empire to the Reformation. Lecture: 3 credits (45 contact hours)

**Pre-requisite:** HRS 101 or consent of instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HRS 200 (3 credit hours)****Independent/Guided-Study Project**

Students wishing to engage in an approved, valid research/study project may receive academic credit through this course. The project may be scheduled concurrently with the academic semester, or in the case of necessary travel, between semesters or during the summer term. Lecture: Variable; Laboratory: Variable.

**Pre-requisite:** Superior academic ability as demonstrated by tests, classwork, and interviews.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**HRS 201 (3 credit hours)****An Integrated Survey of Western Civilization III**

An honors course designed to provide an opportunity for the interested student to study the development of Western Civilization as reflected in the literary, artistic, musical, philosophical, political, and economic developments and movements of the major western cultures from the Renaissance to the Industrial Revolution. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** HRS 102 or consent of instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HRS 202 (3 credit hours)****An Integrated Survey of Western Civilization IV**

An honors course designed to provide an opportunity for the interested student to study the development of Western Civilization as reflected in the literary, artistic, musical, philosophical, political, and economic developments and movements of the major western cultures from the Industrial Revolution to the present. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** HRS 201 or consent of instructor.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

## Horticulture (HRT)

**HRT 104 (4 credit hours)****Introduction to Herbaceous Plants**

Covers the care, culture and distinguishing characteristics of herbaceous plants including the scientific and common names of many of the most common herbaceous plants including pests common to these plants. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 108 (4 credit hours)****Introduction to Woody Plants**

Covers the care, culture, and distinguishing characteristics of woody plants including the scientific and common names of many of the most common landscape woody plants. Examines pests that are common to these plants. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 110 (4 credit hours)****Nursery Management**

This course provides an introduction to the nursery industry. It includes information on soils, plant growth, nutrition and propagation methods; comparison of field and container growing practices; comparison of pest control methods; storing, grading and marketing nursery stock and the importance of keeping records and accounts.

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 120 (4 credit hours)****Turf Management**

Focuses on the identification, care, and culture of cool and warm season turf plants including how to calculate an area for seed or sod, identification of insects, weeds, diseases and the proper control measures for each, and the development of a schedule for good turf maintenance and renovation for turf areas. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 130 (3 credit hours)****Landscape Maintenance**

Introduces basic techniques for landscape management including pruning and planting techniques, safe working practices in the landscape and pest management. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 131 (2 credit hours)****Landscape Maintenance Lab**

Applies knowledge of equipment, technology, and safety issues related to landscape maintenance, and the use of general math skills in computations used in the landscape including pesticides, fertilizers, and IPM systems used in maintaining the landscape, soils, and construction of various hard surface features. Laboratory: 2 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**HRT 150 (3 credit hours)****Horticulture Business Management**

This course introduces various career opportunities in a garden center and focuses on salesmanship and business practices utilized in this environment. Identification of characteristics, usage and care of woody ornamentals, annual and perennial plants, as well as use and care information needed by the consumer are included. Assisting customers in choosing chemical pesticides and plant related products is discussed. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**HRT 160 (4 credit hours)****Retail Floral Design**

Provides information and skills for successful employment in the floral design industry including business management, cost analysis and marketing, materials, containers, tools, and flowers. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 161 (2 credit hours)****Retail Floral Design Lab**

Applies design principles and small business operations. Uses fresh and artificial floral products to create displays. Laboratory: 2 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**HRT 210 (4 credit hours)****Landscape Design**

Introduces the basic principles and practices of landscape design including the use of drawing equipment. Topics include the creation of design symbols and the development of a client needs and site analysis plan. Emphasis is placed on the ability to read landscape drawings and install plants from the design plan. Lecture: 4 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 240 (4 credit hours)****Greenhouse Management**

Topics include the identification and function of a plant's leaves, roots and stems; as well as identifying major plant processes and sexual reproduction parts. The 16 essential elements and how they affect plant growth are discussed. Identification of diseases, insects and plant disorders in the greenhouse are included. Development of growing schedules for the following crops are completed: poinsettias, chrysanthemums, Easter lilies, bedding plants and hanging baskets. Injectors are calibrated using various fertilizer and chemical ratios. Pre-requisite/

**Co-requisite:** HRT 140

**Attributes:** Technical

**Components:** LEC: Lecture

**HRT 241 (2 credit hours)****Greenhouse Management Lab**

This course is an introduction to the tools, equipment, procedures, supplies and safety issues related to greenhouse management. Other tasks are assigned as the season dictates. Lab: 2 credits (90 contact hours).

**Pre- or co-requisite:** HRT 240.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Hospitality Management (HOS)

**HOS 100 (3 credit hours)****Introduction to Hospitality Management**

Introduces an overview of the hospitality industry. Examines the historical perspective and tracks current events. Examines the structure of the industry including chains, franchising, ownership, and management. Explores the inner workings of various components of lodging, foodservice and entertainment organizations. Demonstrates real-world application through industry examples and case studies which are used extensively. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HOS 160 (3 credit hours)****Security for the Hospitality Industry**

Analyzes modern security concerns for the protections of assets unique to the hospitality industry, including loss prevention techniques and the application of law for lodging, retailing, clubs, restaurants, lounges and hospitality properties. Examines topics such as industrial safety, disaster control techniques, emergency action planning, and crisis communications. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HOS 200 (3 credit hours)****Cultural Heritage Tourism**

Examines the range of cultural and heritage assets that can become viable tourism attractions and looks at ways of linking quality cultural heritage tourism to community development from effective planning and marketing. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HOS 210 (3 credit hours)****Front Office Operations**

Identifies principles required to organize and operate hotel and motel front office guest needs, to have effective salesmanship, and to create procedures for different types of front office operations. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HOS 282 (3 credit hours)****Tourism Marketing**

Examines how and why tourists make destination choices, and learns how to develop a strategic marketing system that emphasizes your destination's distinctive appeal. Answers questions of how to assess visitor markets, gather and analyze data, reduce risk and gain competitive advantages, and turn analysis into sound decisions. Applies knowledge from case studies, and practical tips for stretching marketing dollars through better monitoring, cost controls, and evaluation. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Human Services (HMS)

**HMS 101 (3 credit hours)****Human Services Survey**

Examines community human service agencies regarding their organization, service delivery system, staffing patterns, and funding sources. Explores the origin and development of the social welfare system as well as social welfare policy. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 102 (3 credit hours)****Values of Human Services in a Contemporary Society**

Examines the values and ethics of human service professions. Encourages a personal philosophy of client intervention, including the development of a professional value base, achieved through the examination of major social problems and issues. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 103 (3 credit hours)****Theories and Techniques in Human Services**

Introduces philosophies, theories for intervention, and the problem-solving process. Emphasizes the development of a skill base used in counseling techniques and client intervention. Enhances interpersonal relationship skills through knowledge of communication techniques. Provides activities in which the student will apply this knowledge and these skills. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (HMS101 and HMS 102 with a grade of "C" or better) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 104 (3 credit hours)****Group Dynamics for Human Services**

Covers group techniques in clinical or agency settings based on various theoretical models with emphasis on the leadership role, phases of group development, and interaction within the group. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** HMS103 with a grade of "C" or better or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture



**HMS 200 (3 credit hours)****Dynamics of Human Behavior**

Includes an historic view of theories of personality development, maladaptive behavior, knowledge of treatment, techniques of adjustment and social implications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSY 110 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 210 (3 credit hours)****Drugs, Society, & Human Behavior**

Covers the nature and progression of chemical abuse and dependency, and effects on the individual, family, and society. Includes strategies for prevention, intervention, and treatment. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 211 (3 credit hours)****Introduction to Addictions**

Provides an overview of approaches to understanding addictions with emphasis on the bio-psycho-social model. Analyzes the etiology, progression, and processes involved in change. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSY 110 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 212 (3 credit hours)****Crisis Intervention**

Focuses on crisis intervention theory, suicide prevention, and risk assessment techniques. Covers risk assessment protocols, crisis triage, de-escalation and referral. Introduces clinical, ethical and legal aspects. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSY 110 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 220 (3 credit hours)****Cultural Diversity in Human Services**

Examines current and historical cultural diversity in human services provision. Focuses on cultural self-awareness and cultural competence as they pertain to human services professionals. Explores dominant and minority cultural norms, attitudes, and belief systems. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 235 (3 credit hours)****Teaching Persons with Mental Retardation**

Introduces mental retardation with emphasis on understanding and teaching the mentally retarded. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSY 110 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 240 (3 credit hours)****Service Coordination for Human Services Professionals**

Provides students with experience utilizing techniques and skills used in human services, as well as the theories behind these techniques and skills. Explores skills related to service delivery, behavior management, and supportive services with different populations, including adults, children, families, individuals with mental impairments, mental illnesses, and/or developmental disabilities. Demonstrates skills and techniques including therapeutic communication, interviewing clients, treatment planning, goal setting, documentation & record keeping, crisis intervention, and addressing ethical dilemmas. Lecture: 3 credit hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 245 (3 credit hours)****Psychiatric Mental Health Technician**

Prepares students for employment as psychiatric aides or psychiatric technicians. Includes a review of nursing assistant skills, psychopathology, DSM diagnostics, strengths perspective, bio-psycho-social assessments, and psychotropic medications. Explores the responsibilities of mental health technicians who work under the supervision of a psychiatrist, registered nurse, or social worker; as well as participate in the development and implementation of therapeutic treatment plans for persons with mental disorders; particularly those receiving treatment in an inpatient setting. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** NAA 100 or MNA100, PSY110 and HMS103 with a grade of "C" or better or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 248 (3 credit hours)****Foundational Skills in Para-Professional Practice**

Applies principles of skills previously learned in Human Services courses which are utilized to develop proficiency related to interviewing, data collection, assessment, goal development, contracting, and documentation. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** HMS 104 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 251 (3 credit hours)****Clinical Practices in Human Services**

Provides practice and application of principles and skills previously learned in Human Services courses in community agencies. Lecture: 1 credit hour (15 contact hours). Clinical: 2 credit hours (120 contact hours).

**Pre-requisite:** HMS 101, HMS 102, HMS 103, HMS 104 or Consent of Instructor.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture



**HMS 265 (3 credit hours)****Working with Disabilities in Human Services**

Provides an in-depth study of the coordination and provision of services and supports for individuals with disabilities in community settings, including the provision of community-referenced instruction, vocational instruction in community settings, school-to-work transition planning, integrated recreation/leisure opportunities, and personal management/independent living skill training and supports. Emphasizes developmental disabilities and mental retardation. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**HMS 299 (1-3 credit hours)****Special Topics in Human Services: (Topic)**

Provides an in-depth knowledge of a Human Services topic and allows students' choices with coordinator/instructor's approval on an issue of instruction. Lecture: 1-3 credits (15-45 contact hours). Clinical: 1-3 credits (60-180 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Humanities (HUM)

**HUM 120 (3 credit hours)****Introduction to the Humanities**

Introduces students to at least five disciplines in the humanities, such as art, literature, dance, drama, cinema, philosophy, music, architecture, religion, and mythology. Explores distinctions and relationships between the disciplines through study of their basic methods, themes, and forms. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 121 (3 credit hours)****Peace Studies**

This interdisciplinary course is intended as a general introduction to the nature, scope, and methodology of Peace Studies, with a view toward the future. It will explore the history of non-violent movements to effect social change, the role of women in the attainment of peace and protection of life, the tie between social justice and the environment, and the resolution of conflict between individuals, groups, societies, and nations. The course includes the study of activists such as Dr. Martin Luther King, Jr., Gandhi, and Dorothy Day. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 135 (3 credit hours)****Introduction to Native American Literature**

Introduces the study of the oral and written literature of Native American peoples, emphasizing the cultural and historical context in which it was composed. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

**Components:** LEC: Lecture

**HUM 140 (3 credit hours)****Introduction to Latino Literature**

Analyzes literary texts and other artistic expressions to reveal aspects of Latino cultures such as identity, immigration, indigeneity; relates literary developments and movements to the cultural, political, and religious experiences of Latinos in the U.S.; examines connections between minority writing and mainstream literary works. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 150 (3 credit hours)****Introduction to African Literature**

Presents a cross-cultural and historical approach to the oral and written works by major Black writers of Africa. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 160 (3 credit hours)****Introduction to Holocaust Literature and Film**

Analyzes literary texts, memoirs, film, and other artistic expressions of the Holocaust to focus on the cultural and political events that caused the Holocaust; examines how subsequent people represent what happened; explores the consequences of the Holocaust in terms of ethical and human rights issues; examines how issues of racism and religious intolerance occurred prior to and since the Holocaust; addresses the Holocaust in a comparative perspective to prior and subsequent acts of genocide in other countries. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 202 (3 credit hours)****Survey of Appalachian Studies I**

Presents an inter-disciplinary introduction to Appalachian history, economy, geography, politics, and culture, primarily through exploration of texts about the region, including fiction, non-fiction, and poetry. Emphasizes geography, Appalachian identity, works, values, and communication. May also include exploration of regional music, traditional arts, drama, photography, film, and, where applicable, community-based explorations of the Appalachian experience. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

**Components:** LEC: Lecture

**HUM 203 (3 credit hours)****Survey of Appalachian Studies II**

Presents an inter-disciplinary introduction to Appalachian history, economy, geography, politics, and culture, primarily through exploration of texts about the region, including fiction, non-fiction, and poetry. Emphasizes migrations, economy, belief, expression, politics and government, and environment. May also include exploration of regional music, traditional arts, drama, photography, film, and, where applicable, community-based explorations of the Appalachian experience. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

**Components:** LEC: Lecture

**HUM 204 (3 credit hours)****Appalachian Seminar**

Examines in detail one or more issues pertinent to the Appalachian region. Topics may include but are not limited to: cultural diversity, religious expression, politics and government, trends in Appalachian literature, or trends in regional sociological scholarship. Topics may vary from semester to semester. This course may be repeated once for credit with a different topic. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

**Components:** LEC: Lecture

**HUM 220 (3 credit hours)****Historical Perspectives on Peace and War**

Provides an introduction to the history of violence and peace movements. Examines the anthropological, political, cultural and technological forces contributing to the frequent occurrence of war throughout history. Explores the history of movements and organizations, both religious and secular, intended to minimize warfare and oppression. Examines literature and visual arts to enhance and elaborate on the themes presented in the anthropological and historical sections of the course. Sophomore standing or consent of instructor. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Sophomore Status.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 221 (3 credit hours)****Contemporary Perspectives on Peace and War**

Introduces the effects of modern-day warfare and the countervailing trends, actions, and movements to create peace. Focuses on aspects of peace and war such as the role of women, the perspectives of notable scientists, philosophical perspectives, the role of economic globalization in social justice, the environmental impacts, and conflict resolution. Sophomore standing or consent of instructor. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Sophomore Status.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**HUM 230 (3 credit hours)****Contemporary Japanese Literature and Culture in Translation**

Presents traditional and contemporary aspects of Japanese culture as reflected in both cultural studies and literature. Examines daily life as revealed in the themes and motifs of Japanese fiction, poetry, drama, and film. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 102 or ENG 105 or consent of instructor.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 250 (3 credit hours)****Appalachian Literature Survey**

Surveys significant texts about Appalachia from native populations and early European settlement to the end of the twentieth century. Emphasizes texts by writers living and working in the region, though perspectives from outside of the region may be examined. Focuses on historical, social, political, and cultural contexts, as well as analysis of literary forms and techniques. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 251 (3 credit hours)****Contemporary Appalachian Literature**

Examines significant texts by Appalachian writers of the last twenty-five years. Emphasizes the development of contemporary Appalachian literary voice and identity. Examines connections or challenges to "traditional" Appalachian heritage and cultural identity. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 281 (3 credit hours)****Introduction to Film**

Introduces the study of movies as a narrative art and a cultural document. Requires viewing of films outside of class. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**HUM 282 (3 credit hours)****International Film Studies**

Enhances student awareness of how cinema has been used as a multicultural tool for observing/analyzing various aspects of a broad range of societies. Includes critical analysis and interpretation of films from various cultures. Explores the films' countries of origin and the cinematic impacts upon the society and the world. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

## Industrial Core (IEX)

**IEX 291 (1 credit hours)****Special Problems I**

This course is designed for the student who has demonstrated specific needs. Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**IEX 295 (3 credit hours)****Special Problems III**

This is a course designed for the student who has demonstrated specific special needs. Laboratory: 3 credits (135 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Industrial Maintenance Technology (IMT)

**IMT 100 (3 credit hours)****Welding for Maintenance**

Provides basic instruction needed for student to weld using SMAW (Stick), GMAW (MIG), GTAW (TIG), and Oxy-Fuel processes. Lecture: 3 credits (45 contact hours).

**Co-requisite:** (IMT 101 or (IMT 1011 - IMT 1014)) or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 101 (2 credit hours)****Welding for Maintenance Lab**

Provides application of basic welding skills used in SMAW (Stick), GMAW (MIG), GTAW (TIG) and Oxy-Fuel. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** IMT 100 or consent.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 110 (3 credit hours)****Industrial Maintenance Electrical Principles**

Introduces the theory of electricity and magnetism and the relationship of voltage, current, resistance, and power in electrical circuits. Develops an understanding of alternating and direct current fundamentals. Applies formulas to analyze the operation of AC and DC circuits. Lecture: 3 credits (45 contact hours).

**Co-requisite:** : IMT 111 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 111 (2 credit hours)****Industrial Maintenance Electrical Principles Lab**

Verifies knowledge of basic theory by making measurements in working AC and DC circuits. Provides for the construction of various types of circuits and the measurement of their parameters. Stresses the use of test equipment, safety, and troubleshooting. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** IMT 110 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 115 (2 credit hours)****Maintenance Machining I**

Includes fundamental machining operations necessary for the success of Maintenance Technicians in the field who are required to be proficient in basic machining operations. Lecture: 2 credits (30 contact hours).

**Co-requisite:** IMT 116.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 116 (5 credit hours)****Maintenance Machining I Lab**

Includes the application of fundamental machining operations necessary for the success of Maintenance Technicians in the field who are required to be proficient in basic machining operations. Laboratory: 5 credits (150 contact hours).

**Co-requisite:** IMT 115 or Consent.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 120 (3 credit hours)****Industrial Maintenance Rotating Machinery**

Students will learn the basic principles needed for the proper maintenance of AC and DC motors. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Permission of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 121 (2 credit hours)****Industrial Maintenance Rotating Machinery Lab**

Provides practical experience in the construction, operation and maintenance of AC motors and alternators and DC motors and generators. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** IMT 120 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**IMT 138 (5 credit hours)****Lean Manufacturing**

Instructs the students in the basic concepts of a safety culture and hazard prediction training. Introduces the fundamental 5S process, the Toyota Production System for Maintenance, the Toyota Problem Solving method, the Toyota Drive and Dedication model, and the Toyota Maintenance Reliability Process and Reliability Centered Maintenance Analysis. Lecture: 5.0 credits (75 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 140 (3 credit hours)****Industrial Mechanics**

Introduces the fundamental principles of fluid power, mechanical systems, and the relationship between voltage, current, resistance, and power in electrical circuits. Presents a broad range of technical information used in industry today by technicians, mechanics, and maintenance personnel. Lecture: 3 credits (45 contact hours).

**Co-requisite:** IMT 141.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 141 (1 credit hours)****Industrial Mechanics Lab**

Provides laboratory experiences for constructing and adjusting basic fluid power circuits, installing and adjusting mechanical drive components, and taking measurements in operational AC and DC electrical circuits. Stresses the use of common hand tools, test instruments, safety, and troubleshooting. Lab: 1 credit (30 contact hours).

**Co-requisite:** IMT 140.

**Attributes:** Technical

**Components:** LAB: Laboratory

**IMT 150 (3 credit hours)****Maintaining Industrial Equipment I**

Introduces the student to maintenance techniques and procedures used to maintain industrial equipment. Lecture: 3 credits (45 contact hours).

**Co-requisite:** IMT 151 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 151 (2 credit hours)****Maintaining Industrial Equipment I Lab**

Provides the student with lab experience in the maintenance of industrial equipment. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** IMT 150 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 160 (2 credit hours)****FANUC Robot Operations**

Introduces students to basic FANUC robotics programming as well as providing introductory operational skills needed in an industrial environment. Integrated Lecture: 1 credit (15 contact hours). Integrated Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IMT 161 (2 credit hours)****KUKA Robot Level 1 Robot Operation**

Introduces students to basic KUKA robotic programming as well as providing introductory operational skills needed in an industrial environment. Integrated Lecture: 1 credit (15 contact hours). Integrated Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IMT 162 (2 credit hours)****YASKAWA/MOTOMAN Robot Operations**

Introduces students to basic YASKAWA/MOTOMAN robotic programming as well as providing introductory operational skills needed in an industrial environment. Integrated Lecture 1.0 credit hour (15 contact hours). Integrated Lab 1.0 credit hour (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IMT 198 (1-8 credit hours)****Practicum**

Provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Practicum do not receive compensation. Practicum: 1-8 credits (75-600 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**IMT 199 (1-8 credit hours)****Cooperative Education**

Provides supervised on-the-job work experience related to the student's educational objective. Students participating in the Co-op Education program receive compensation for their work. Co-op: 1 - 8 credits (75-600 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**IMT 200 (4 credit hours)****Industrial Robotics and Robotic Maintenance**

Provides the industrial maintenance student an introduction to the theory of robots including applications, basic programming, components, industrial robotic safety standards, industrial robots classifications, key programming techniques, robotic motion concepts, and terminology. Instructs students on the concepts of preventive and predictive maintenance techniques required for a robot and their backup systems and recovery procedures. Provides the opportunity for the industrial maintenance student to develop, set up, and integrate work cells into manufacturing systems at a beginning level. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** IMT 110 and IMT 111 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 220 (3 credit hours)****Industrial Maintenance Electrical Motor Controls I**

Addresses the common symbols used in motor control circuits, the fundamentals of electrical schematics and wiring diagrams, the principles of relays, motor starters, switches, pilot devices, sensing devices, and indicator lights, and introduces the different types and operations of basic motor control circuits. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IMT 110, & IMT 111.

**Co-requisite:** IMT 221.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 221 (2 credit hours)****Industrial Maintenance Electrical Motor Controls I Lab**

Includes an application of common symbols used in motor control circuits, fundamentals of electrical schematics and wiring diagrams, principles of relays, motor starters, switches, pilot devices, sensing devices, indicator lights, and the different types and operations of basic motor control circuits. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** (IMT 110 and IMT 111) or consent of instructor.

**Co-requisite:** IMT 220.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 222 (2 credit hours)****Industrial Maintenance Motor Controls II**

Provides advanced study of motor controls in industry. Addresses open and closed loop control systems, servo motors, encoders, AC and DC motors and industry standard color coding. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** (IMT 110 and IMT 111 and IMT 220 and IMT 221) or consent of instructor.

**Co-requisite:** IMT 223.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 223 (2 credit hours)****Industrial Maintenance Motor Controls II Lab**

Provides advanced study of motor controls in industry. Addresses open and closed loop control systems, servo motors, encoders, AC and DC motors and industry standard color coding. Laboratory: 2 credits (60 hours).

**Pre-requisite:** (IMT 110 and IMT 111 and IMT 220 and IMT 221) or consent of instructor.

**Co-requisite:** IMT 222.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 230 (5 credit hours)****Industrial Maintenance of PLCs**

This course includes the theory of programmable logic controllers to include installation, programming, interfacing, and troubleshooting of industrial PLC's.

**Pre-requisite:** IMT 240

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 231 (2 credit hours)****Industrial Maintenance of PLC's Lab**

Addresses the diversity of PLC control devices and applications used in industry today. Safety and electrical lockouts are also included. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** [(IMT 110 and 111) or IMT 130 and 131] with a grade of C or greater] or Consent of Instructor.

**Co-requisite:** IMT 230 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory



**IMT 240 (6 credit hours)****Industrial Maintenance Motor Control Concepts**

Addresses the diversity of control devices and applications used in industry today with safety and electrical lockouts included. The basic theory of programmable logic controllers is also included. Lecture: 6 credits (90 contact hours).

**Pre-requisite:** [(IMT 110 and IMT 111) or (IMT 130 and IMT 131) with a grade of C or greater] or Consent of Instructor.

**Co-requisite:** IMT 241 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 241 (4 credit hours)****Industrial Maintenance Motor Control Concepts Lab**

Verifies knowledge of basic theory by making measurements in working AC and DC circuits. Various types of circuits are constructed and their parameters measured. The use of test equipment, safety, and troubleshooting are stressed. This lab course also provides practical experience in the construction, operation, and maintenance of AC and DC motors. Prerequisite: [(IMT 110 and 111) or (IMT 130 and 131) with a grade of C or greater] or Consent of Instructor. Corequisite: IMT 240 or Consent of Instructor. Laboratory: 4 credits (120 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**IMT 250 (2 credit hours)****Maintaining Industrial Equipment II**

Integrates the student's accumulative knowledge from the IMT 150 and IMT 151 courses. Emphasizes troubleshooting techniques and applied machine repair situations that require the student to apply learned skills from all areas of the curriculum. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** (IMT 150 and 151) with a grade of "C" or greater or consent of instructor.

**Co-requisite:** IMT 251 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 251 (3 credit hours)****Maintaining Industrial Equipment II Lab**

Complements IMT 250 and consists of advanced, specific and assigned machine repair tasks. Laboratory: 3.0 credits (90 contact hours). Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** (IMT 150 and 151) with a grade of "C" or greater or consent of instructor.

**Co-requisite:** IMT 250 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**IMT 260 (7 credit hours)****Presswork and Die Maintenance**

Includes the fundamental concepts and machining operations needed by the industrial maintenance technician to be proficient in the field of stamping press and die maintenance. Lecture: 2 credits (30 contact hours), Lab: 5 credits (150 contact hours).

**Pre-requisite:** IMT 100 and IMT 101 and [(IMT 115 & IMT 116) or (MTT 114) or (MTT 110 & MTT 112)] or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 280 (3 credit hours)****Advanced Programmable Logic Controllers**

Covers advanced theory programmable logic controllers to include designing applications, programming, interfacing and troubleshooting of industrial PLCs. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ((IMT 220 and IMT221 with a grade of "C" or greater) or (equivalent) or Consent of Instructor).

**Co-requisite:** IMT 281 or Instructor consent.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IMT 281 (2 credit hours)****Advanced Programmable Logic Controllers Lab**

Provides practical applications of the theory in IMT 280 to include installation, programming, interfacing and troubleshooting of industrial PLCs. Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** (IMT 220 and 221) with a grade of C or greater) or Consent of Instructor.

**Co-requisite:** IMT 280 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory

**IMT 282 (3 credit hours)****PLC Programming Languages**

Covers the use of the four main Programmable Logic Controllers (PLC) programming languages specified in the International Electrotechnical Commission (IEC) 61131-3 international standard: Ladder Diagram, Function Block Diagram, Structured Text, and Sequential Function Chart. Discusses a variety of PLC networking protocols such as Ethernet/IP. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** IMT 280 or ELT 250 or EET 276 and EET 277 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMT 289 (1 credit hours)****Industrial Maintenance Technology Capstone**

Serves as the capstone course for the Industrial Maintenance Technology degree program. Integrates prior learning outcomes into a single integrated learning experience. Includes preparation for an exit exam that all program graduates must take. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** ((BRX 120 or ELT 102) and FPX 100 and FPX 101 and IMT 100 and IMT 101 and IMT 110 and IMT 111 and IMT 150 and 151 and IMT 220 and IMT 221) or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMT 290 (1-3 credit hours)****Special Problems**

Provides an opportunity to develop advanced skills in topics related to industrial maintenance. Laboratory: 1-3 credits (30-90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**IMT 1001 (0.75 credit hours)****Welding for Maintenance Safety**

Provides basic instruction needed for student to weld using Oxy-Fuel. Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 1011 (or consent of instructor).

**Components:** LEC: Lecture



**IMT 1002 (0.75 credit hours)****Welding for Maintenance SMAW (Stick Welding)**

Provides basic instruction needed for student to weld using Shielded Metal Arc Welding (SMAW). Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 1012 (or consent of instructor).

**Components:** LEC: Lecture

**IMT 1003 (0.75 credit hours)****Welding for Maintenance GMAW (MIG Welding)**

Provides instruction of setup and use of GMAW (MIG welding) equipment. Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 1013 (or consent of instructor).

**Components:** LEC: Lecture

**IMT 1004 (0.75 credit hours)****Welding for Maintenance GTAW (TIG Welding)**

Provides instruction of setup and use of GTAW (TIG welding) equipment. Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 1014 (or consent of instructor).

**Components:** LEC: Lecture

**IMT 1011 (0.5 credit hours)****Welding for Maintenance Safety and Cutting Lab**

Provides application of welding safety and use of oxy-fuel cutting equipment. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1001 (or consent of instructor).

**Components:** LAB: Laboratory

**IMT 1012 (0.5 credit hours)****Welding for Maintenance SMAW (Stick Welding) Lab**

Provides application of setup and use of SMAW (stick welding) equipment. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1002 (or consent of instructor).

**Components:** LAB: Laboratory

**IMT 1013 (0.5 credit hours)****Welding for Maintenance GMAW (MIG Welding) Lab**

Provides application of setup and use of GMAW (MIG welding) equipment. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1003 (or consent of instructor).

**Components:** LAB: Laboratory

**IMT 1014 (0.5 credit hours)****Welding for Maintenance GTAW (TIG Welding) Lab**

Provides application of setup and use of GTAW (TIG welding) equipment. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1004 (or consent of instructor).

**Components:** LAB: Laboratory

**IMT 1151 (0.2 credit hours)****General Shop Knowledge**

Includes fundamental machining operations necessary for the success of Maintenance Technicians in the field who are required to be proficient in basic machining operations. Lecture: 0.2 credit (3 contact hours).

**Co-requisite:** IMT 1161 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 1152 (0.1 credit hours)****Vertical and Horizontal Bandsaw Operations**

Introduces vertical and horizontal bandsaw operations including the selection of feeds and speeds as well as blade welding. Lecture: 0.1 credit (1.5 contact hours).

**Co-requisite:** IMT 1162 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 1153 (0.3 credit hours)****Drill Press Operations and Procedures**

Introduces drill press operations including the selection of feeds and speeds, layout, drill bit selection and sharpening, and precision drilling operations. Lecture: 0.3 credit (4.5 contact hours).

**Co-requisite:** IMT 1163 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 1154 (0.8 credit hours)****Lathe Operations and Procedures**

Introduces lathe operations including lathe components, grinding tool bits, the selection of feeds and speeds, turning operations, and threading. Lecture: 0.8 credit (12 contact hours).

**Pre-requisite:** IMT 1151 or Consent of Instructor.

**Co-requisite:** IMT 1164 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 1155 (0.6 credit hours)****Milling Machine and Surface Grinder Operations and Procedures**

Introduces milling and surface grinding operations including vise alignment, tramming, selection of feeds and speeds, form tools, dressing grinding wheels. Lecture: 0.6 credit (9 contact hours).

**Pre-requisite:** IMT 1151 or Consent of Instructor.

**Co-requisite:** : IMT 1165 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 1161 (0.5 credit hours)****General Shop Knowledge Lab**

Includes the application of fundamental machining operations necessary for the success of Maintenance Technicians in the field who are required to be proficient in basic machining operations. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1151 or Consent of Instructor.

**Components:** LAB: Laboratory

**IMT 1162 (0.5 credit hours)****Vertical and Horizontal Bandsaw Operations Lab**

Introduces vertical and horizontal bandsaw operations including the selection of feeds and speeds as well as blade welding. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1152 or Consent of Instructor.

**Components:** LAB: Laboratory

**IMT 1163 (0.5 credit hours)****Drill Press Operations and Procedures Lab**

Introduces drill press operations including the selection of feeds and speeds, layout, drill bit selection and sharpening, and precision drilling operations. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 1153 or Consent of Instructor.

**Components:** LAB: Laboratory

**IMT 1164 (2 credit hours)****Lathe Operations and Procedures Lab**

Introduces lathe operations including lathe components, grinding tool bits, the selection of feeds and speeds, turning operations, and threading. Laboratory: 2 credits (60 contact hours).

**Co-requisite:** IMT 1154 or Consent of Instructor.

**Components:** LAB: Laboratory

**IMT 1165 (1.5 credit hours)****Milling Machine and Surface Grinder Operations and Procedures Lab**

Introduces milling and surface grinding operations including vise alignment, tramming, selection of feeds and speeds, form tools, dressing grinding wheels. Laboratory: 1.5 credit (45 contact hours).

**Pre-requisite:** IMT 1161 or Consent of Instructor.

**Co-requisite:** IMT 1155 or Consent of Instructor.

**Components:** LAB: Laboratory

**IMT 1381 (1 credit hours)****Safety Culture**

Introduces the importance of cultivating daily safe work habits and the predictable negative results of not being safety conscious in the work place. Instructs the students in basic safety culture and prepares them to participate in, conduct, and lead safety walk-throughs. Introduces the student to Kiken Yoshi Training (KYT) or Hazard Prediction Training. Prepares the student to conduct risk assessment activities, construct safety boards, and formulate individual safety commitments. Lecture: 1.0 credit (15 contact hours).

**Components:** LEC: Lecture

**IMT 1382 (1 credit hours)****5S**

Introduces the fundamental 5S process involving the five step progression described by the Japanese words Seiri, Seiton, Seiso, Seiketsu, and Shitsuke. Instructs the students in the sequence involving classifying and sorting, ordering and aligning, cleaning and sweeping up, standardizing, and developing a process of sustainable practice in the workplace. Fosters the development of a workplace organization in which safety and efficiency are always paramount. Lecture: 1.0 credit (15 contact hours).

**Components:** LEC: Lecture

**IMT 1383 (1 credit hours)****Total Production Management**

Instructs the student in the concepts of value-added product, maintenance value-added product, value-added work and necessary work. Explains the process of how Toyota earns profit. Demonstrates the Toyota Production System for Maintenance using the House framework. Describes and explains the three Ms and the seven Mudras and their relationship to maintenance and production. Lecture: 1.0 credit (15 contact hours).

**Components:** LEC: Lecture

**IMT 1384 (1 credit hours)****Problem Solving**

Introduces the Toyota Business Practice model, the 8 step Toyota Problem Solving method, and the 10 part Toyota Drive and Dedication model. Instructs the students to clarify the problem, break it down to analyze it, set achievable targets, analyze the root cause, develop countermeasures, evaluate results and the process, standardize the results, and learn from failures. Fosters the development of a customer first philosophy involving all the stakeholders. Lecture: 1.0 credit (15 contact hours).

**Components:** LEC: Lecture

**IMT 1385 (1 credit hours)****Maintenance Reliability**

Introduces the Toyota Maintenance Reliability training. Describes the difference between corrective maintenance and preventive maintenance. Breaks down proactive maintenance and the underlying tools and constituent processes. Instructs the students in the various individual units in a system and the steps in evaluating failure mode risks and countermeasures. Lecture: 1.0 credit (15 contact hours).

**Components:** LEC: Lecture

**IMT 2201 (1 credit hours)****Introduction to Motor Controls**

Addresses the importance of electrical safety and the general fundamentals of motor controls. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** (IMT 110 and IMT 111) or Consent of Instructor.

**Co-requisite:** IMT 2211.

**Components:** LEC: Lecture

**IMT 2202 (1 credit hours)****Motor Starters and Pilot Devices**

Addresses the diversity of motor starters, control devices, and circuitry. Introduces the different types and operations of basic control circuits while reinforcing the common symbols used in motor control circuits as well as interpreting and drawing electrical schematics and wiring diagrams. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** IMT 2201 or Consent of Instructor.

**Co-requisite:** IMT 2212.

**Components:** LEC: Lecture

**IMT 2203 (1 credit hours)****Motor Control Circuits**

Explores aspects of electrical symbols and specialized motor control circuit. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** IMT 2202 or Consent of Instructor.

**Co-requisite:** IMT 2213.

**Components:** LEC: Lecture

**IMT 2212 (0.5 credit hours)****Motor Starters and Pilot Devices Lab**

Addresses the diversity of motor starters, control devices, and circuitry. Laboratory: 0.5 credit (15 contact hours).

**Pre-requisite:** IMT 2211 or Consent of Instructor.

**Co-requisite:** IMT 2202.

**Components:** LAB: Laboratory

**IMT 2213 (1 credit hours)****Motor Control Circuits Lab**

Explores aspects of electrical symbols and specialized motor control circuits. Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** IMT 2212 or Consent of Instructor.

**Co-requisite:** IMT 2203.

**Components:** LAB: Laboratory

**IMT 2231 (0.5 credit hours)****Principles in Process Control and Automation Lab**

Provides the lab component for IMT 2221. Covers open and closed loop systems and how they relate to servo and motor encoders. Lecture: 0.5 credits (15 contact hours)

**Pre-requisite:** (IMT 110 and IMT 111) or Consent of Instructor.

**Co-requisite:** IMT 2221.

**Components:** LAB: Laboratory

**IMT 2232 (0.5 credit hours)****Industry Standards for Control Circuit Wiring and Troubleshooting Methods Lab**

Provides the lab component for IMT 2222. Covers industry standards related to color coding of industrial wiring control cabinets. Provides for troubleshooting techniques using electrical hand tools and developing and interpreting troubleshooting flow charts to determine phase failure and voltage drops. Laboratory: 0.5 credits (15 contact hours)

**Pre-requisite:** (IMT 110 and IMT 111) or Consent of Instructor.

**Co-requisite:** IMT 2222.

**Components:** LAB: Laboratory

**IMT 2233 (1 credit hours)****Industry Standards for Installing Motors/Electronic Variable Speed Drives II**

Provides the lab component for IMT 2223. Covers how to properly evaluate maintenance procedures used for installation of AC and DC motors, proper start up and shut down of electrical systems and fault recovery. Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** (IMT 110 and IMT 111) or Consent of Instructor.

**Co-requisite:** IMT 2223.

**Components:** LAB: Laboratory

**IMT 2601 (0.5 credit hours)****Stamping Press Basics**

Addresses press and production safety, various types of presses, and press operations. Lecture: 0.5. (Contact Hours 7.5).

**Pre-requisite:** (IMT 115 & IMT 116) or (MTT 114) or (MTT 110 & MTT 112)] or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2602 (0.5 credit hours)****Stamping Die Basics**

Addresses the basics of stamping dies including the production of dies, die safety, rigging and setup of dies, die bolting and clamping, and OSHA die identification. Lecture: 0.3 credits (4.5 contact hours), Lab: 0.2 credits (6 contact hours).

**Pre-requisite:** IMT 2601 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2603 (1.3 credit hours)****Stamping Die Processes**

Addresses various stamping die processes such as bending, forming, drawing, squeezing, and coining. Lecture: 1.3 (Contact Hours 36).

**Pre-requisite:** IMT 2602 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2604 (0.6 credit hours)****Metallurgy of Die Components**

Addresses the characteristics of various tool and die steels, the properties of low carbon steels and cast iron, and die surface coatings and treatments. Lecture: 0.1 credits(1.5 Contact Hours), Lab: 0.5 credits (15 contact hours).

**Pre-requisite:** IMT 2603 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2605 (1.2 credit hours)****Anatomy of Stamping Dies**

Addresses pads and strippers, spring selection, and the characteristics of nitrogen die pressure systems. Lecture: 0.5 credits (7.5 contact hours).

**Pre-requisite:** IMT 2604 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2606 (1.3 credit hours)****Repair Decisions**

Addresses the process for die repair decisions, basic considerations needed when repairing dies, and the control of bend by adjusting pad pressure. Lecture: 1.3. (Contact Hours 34.5).

**Pre-requisite:** IMT 2605 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2607 (1.6 credit hours)****Die Repair**

Addresses the repair of dies including good grinding practice, repairing worn edges, performing shimming of die components, repairing forming ribs and embossments, performing electrical and welding repairs, performing hand finishing, and explaining the repair of nitrogen pressure systems. Lecture: 0.1 credits (1.5 contact hours), Lab: 1.5 credits (45 contact hours).

**Pre-requisite:** IMT 2606 or Consent of Instructor.

**Components:** LEC: Lecture

**IMT 2801 (0.75 credit hours)****Introduction to Programmable Logic Controllers**

Provides an overview of Programmable Controllers, their hardware and functions. Lecture: 0.75 credit. (11.25 contact hours).

**Pre-requisite:** ((IMT 220 and IMT221with a grade of "C" or greater) or (equivalent) or Consent of Instructor).

**Co-requisite:** IMT 2811 or Instructor Consent.

**Components:** LEC: Lecture

**IMT 2802 (0.75 credit hours)****Programming Instructions in PLCs**

Provides an overview in programming Programmable Logic Controller Timers and Counters. Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 2812 or Instructor Consent.

**Components:** LEC: Lecture

**IMT 2803 (0.75 credit hours)****Number Systems and Data Manipulation in PLCs**

Includes different numbering systems, their transfer from one location to another, comparing, manipulation and common math instructions used in PLC. Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 2813 or Instructor Consent.

**Components:** LEC: Lecture

**IMT 2804 (0.75 credit hours)****Advanced Instructions and Troubleshooting PLCs**

Provides an understanding of control instructions, sequencers, shift registers, troubleshooting, and forcing inputs and outputs. Lecture: 0.75 credit (11.25 contact hours).

**Co-requisite:** IMT 2814 or Instructor Consent.

**Components:** LEC: Lecture

**IMT 2811 (0.5 credit hours)****Introduction to Programmable Logic Controllers Lab**

Provides hands-on experience in programming and addressing basic instructions, internal relays, and latching relays. Includes changing modes of operation. Laboratory: 0.5 credit (15 contact hours).

**Pre-requisite:** ((IMT 220 and IMT221with a grade of C or greater) or (equivalent) or Consent of Instructor).

**Co-requisite:** IMT 2801 or Instructor Consent.

**Components:** LAB: Laboratory

**IMT 2812 (0.5 credit hours)****Programming Instructions in PLCs Lab**

Provides practical experience in programming Programmable Logic Controller Timers and Counters. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 2802 or Instructor Consent.

**Components:** LAB: Laboratory

**IMT 2813 (0.5 credit hours)****Number Systems and Data Manipulation in PLCs Lab**

Convert numbers systems, perform data manipulation, transfer, and comparison on the numbers as well as program math instructions. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 2803 or Instructor Consent.

**Components:** LAB: Laboratory

**IMT 2814 (0.5 credit hours)****Advanced Instructions and Troubleshooting PLCs Lab**

Covers program control instructions, sequencers, and shift registers. Includes troubleshooting PLC issues and using the forcing command. Laboratory: 0.5 credit (15 contact hours).

**Co-requisite:** IMT 2804 or Instructor Consent.

**Components:** LAB: Laboratory

## Industrial Safety (ISX)

**ISX 100 (3 credit hours)****Industrial Safety**

This course provides practical training in industrial safety. The students are taught to observe general safety rules and regulations, to apply work site and shop safety rules, and to apply OSHA regulations. Students are expected to obtain certification in first aid and cardiopulmonary resuscitation. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ISX 101 (3 credit hours)****Introduction to Industrial Safety**

Introduces the history of the industrial safety movement along with current standards under the Occupational Safety and Health Act (OSHA). Introduces safety engineering methods. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ISX 105 (2 credit hours)****General Industrial Safety**

Introduces the history of the safety movement under the standards of the Occupational Safety and Health Administration (OSHA). Provides entry level workers with information about their rights and employer responsibilities. Emphasizes hazard identification, avoidance, control and prevention. OSHA certificate may be available upon successful completion of all required course topics. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**ISX 1001 (1 credit hours)****Safety & Universal Precaution**

This course provides practical training in industrial safety. The students are taught to observe general safety rules and regulations, to apply work site and shop safety rules, and to apply OSHA regulations. Lecture: 1.0 credits (15 contact hours)

**Components:** LEC: Lecture

**ISX 1002 (1 credit hours)****Fire Prevention & Hazardous Com**

This course provides practical training in industrial safety. The students are taught to observe general safety rules and regulations, to apply work site and shop safety rules, and to apply OSHA regulations specifically related to fire prevention and hazardous communication procedures. Lecture: 1.0 credits (15 contact hours)

**Components:** LEC: Lecture

**ISX 1003 (1 credit hours)****CPR & First Aid**

This course provides practical training in industrial safety. Students are expected to obtain certification in first aid and cardiopulmonary resuscitation. Lecture: 1.0 credits (15 contact hours)

**Components:** LEC: Lecture

**ISX 1051 (0.67 credit hours)****10-hour General Industry**

Provides entry level workers with information about their rights and employer responsibilities. Emphasizes hazard identification, avoidance, control and prevention. Lecture: .67 credits (10 contact hours).

**Components:** LEC: Lecture

**ISX 1052 (1.33 credit hours)****General Industry Topics**

Introduces the history of the safety movement under the standards of the Occupational Safety and Health Administration (OSHA). Emphasizes hazard identification, avoidance, control and prevention. (Covers selected topics and standards for general industry under OSHA.) OSHA certificate may be available upon successful completion of all required course topics (and must be within six months of completing ISX 1051). Pre-requisite OR Lecture: 1.33 credits (20 contact hours).

**Co-requisite:** ISX 1051.

**Components:** LEC: Lecture

## Informatics (IFM)

**IFM 111 (3 credit hours)****Client-side Informatics Software**

Examines client-side informatics software used to define, analyze, design, collect, structure, manage, and share organizational data. Examines data through charting and statistical analysis. Applies informatics concepts using industry-standard software, such as spreadsheet packages, database management systems, data/document sharing software, and collaboration software. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Computer Literacy or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IFM 128 (3 credit hours)****Principles of Informatics**

Introduces students to the concepts associated with an information-centric world, information systems, and includes the definition of information and how it is communicated. Prepares students to understand how information systems support data-driven decision making strategies, information sharing technologies, data encoding, cooperative skills, knowledge sharing, and organizing of information. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IFM 211 (3 credit hours)****Collaboration Software**

Examines collaboration software and how it is commonly used in informatics environments and within organizations. Prepares students to design, develop, implement and manage team collaboration sites. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Computer Literacy.

**Attributes:** Technical

**Components:** LEC: Lecture



**IFM 215 (3 credit hours)****Information Systems Analysis**

Introduces students to systems analysis and general design; analysis strategies, tools, and techniques for documenting current systems and developing proposed systems; systems modeling, data modeling, cost/benefit trade-offs, and project management; and development of a comprehensive systems analysis project. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Digital Literacy or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**IFM 225 (3 credit hours)****Advanced Informatics**

Examines advanced informatics concepts related to designing, analyzing, organizing, securing, managing, and mining databases. Examines such topics as data corruption, efficiency in design and implementation, data mining, database connectivity, and network and security basics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Computer Literacy.

**Attributes:** Technical

**Components:** LEC: Lecture

## Informatics (INF)

**INF 120U (3 credit hours)****Elementary Programming**

An elementary introduction to programming for those with no previous programming experience. Emphasis on understanding how to read and write basic procedural programs, and on understanding the concepts of algorithm and execution. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SN - Science, University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

**INF 128U (3 credit hours)****Principles of Informatics**

Multi-disciplinary exploration of the nature of information; how it is represented, processed, shared, preserved, and protected. Topics drawn from the fields of computing, communication, business, the natural and social sciences, and the humanities. Identifies enduring principles; examines impacts on individuals and society; provides practice with a variety of digital technologies. Lecture: 3.0 credits (45 contact hours).

**Attributes:** University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

**INF 260LU (1 credit hours)****Object Oriented Programming Laboratory**

Laboratory to accompany INF 260 in which students gain hands-on experience in programming and using programming tools such as debuggers. Lab: 1.0 credit (2.0 contact hours).

**Attributes:** University Course (Northern Kentucky University)

**Components:** LAB: Laboratory

**University Course:** Northern Kentucky University

**INF 260U (3 credit hours)****Object Oriented Programming I**

Elementary object-oriented programming concepts and practice: types, decisions, loops, methods, arrays, classes; design and problem-solving. An intensive introduction intended for students with programming experience. Lecture: 3.0 credits (45 contact hours).

**Attributes:** University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

**INF 282U (3 credit hours)****Introduction to Databases**

Core concepts for the design, creation, and manipulation of relational databases. Analysis of data requirements, conceptual modeling, definition of the relational model, relational database design and normalization, and database implementation; manipulation of relational databases using relational algebra with SQL. Lecture: 3.0 credits (45 contact hours).

**Attributes:** University Course (Northern Kentucky University)

**Components:** PCM: Practicum

**University Course:** Northern Kentucky University

**INF 286U (3 credit hours)****Introduction to Web Development**

An introduction to web design and development for majors in the informatics fields. Web page creation and HTML; site organization and best practices; e-business planning, models and strategies; overview of SML and CSS; introduction to client-side and server-side programming. Lecture 3.0 credits (45 contact hours).

**Attributes:** University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

## Instrumentation and Process (ISM)

**ISM 102 (4 credit hours)****Fundamentals of Instrumentation**

Introduces concepts of instrumentation devices and laboratory techniques used for monitoring and controlling manufacturing processes. Includes component identification and application, basic conversions, accuracy of measuring devices, tubing use and selection, repair procedures and the theory of operation and calibration of pressure, and process measuring instruments. Covers the need for calibration and the use of various calibration standards. Includes safety precautions, and regulations encountered in the instrumentation field. Lecture: 3 credits (45 contact hours). Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ISM 210 (4 credit hours)****Fundamentals of Process Control**

Provides theoretical and practical experience in the operation of process control systems. Lecture: 3 credits (45 contact hours). Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



## Insurance (INS)

### INS 100 (3 credit hours)

#### Introduction to Insurance and Risk Management

Introduces property-casualty insurance and is a foundation for the study of insurance. Provides information on types of insurance, providers, regulatory environment, and performance measures. Describes the function of marketing, underwriting and claims. Covers insurance as a contract, introduces both property and liability loss exposure and policy provisions, and provides a basic discussion of risk management as a means of managing loss exposures. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Reading, English, and Mathematics assessment scores above the KCTCS developmental placement level or successful completion of the prescribed developmental course(s).

**Attributes:** Technical

**Components:** LEC: Lecture

### INS 181 (3 credit hours)

#### Foundations of Insurance Production

Introduces principles of insurance production and agency and sales management. Emphasizes insurance products and insurance markets in the context of personal lines coverages as well as limited commercial lines coverages. INS 100 or consent. MT 150 or above. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Reading and English assessment scores above the KCTCS developmental placement level or successful completion of the prescribed developmental course(s).

**Attributes:** Technical

**Components:** LEC: Lecture

### INS 182 (3 credit hours)

#### Multiple Lines Insurance Production

Introduces principles of multiple lines insurance production. Emphasizes insurance product and insurance markets in the context of commercial lines coverages. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** INS 181.

**Attributes:** Technical

**Components:** LEC: Lecture

### INS 183 (3 credit hours)

#### Agency Operations and Sales Management

Focuses on the producer's office environment and sales management techniques. Emphasizes how management concepts can be applied to the producer's sales and to the business of running an agency. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** INS 182.

**Attributes:** Technical

**Components:** LEC: Lecture

## Integrated Engineering Technology (IET)

### IET 102 (2 credit hours)

#### Preventive Maintenance

Introduces how routine work is done to keep equipment in good working order and to optimize its efficiency and accuracy. Addresses regular routine cleaning, lubricating, testing, checking for wear and tear and eventually replacing components to avoid breakdown. Introduces students to the various types and styles of predictive and preventive maintenance components, principles, and practices used in industrial applications. Lecture/Lab: 2.0 credits (40.5 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

### IET 104 (2 credit hours)

#### Blueprint Reading/Schematics

Introduces the fundamental information in drafting necessary to retrieve read, manipulate and understand a mechanical part print. Instructs students to recognize, identify, describe, and relate the components used in schematics, along with their symbols and connectors, to describe electrical, electronics, pneumatics, hydraulics, and piping circuits, as well as welding and joining symbols interpretation. Lecture/Lab: 2.0 credits (37.5 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

### IET 107 (3 credit hours)

#### Basic Electricity/Electronics

Introduces the various elements of basic electricity including the identification of electrical symbols as well as interpretation of schematics, cross referencing prints, tracing circuits, interpreting sequential function charts, line drawings and time charts. Introduces the student to electrical measurement instruments, including digital and analog multimeters, clamp-on ammeters, megohmmeters, and the oscilloscope. Concentrates on control logic components and circuit function. Introduces the student to solid state devices and applications. Lecture/Lab: 3.0 credits (67.5 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

### IET 109 (3 credit hours)

#### Safety

Introduces OSHA and the OSHA regulations that apply to the auto manufacturing industry. Introduces safety rules and issues in the use of overhead cranes, hoists, rigging equipment, attachment components, calculating sling angle stresses, and safe lifting and turning loads. Provides the knowledge and skills necessary to help sustain life and minimize the consequences of injury or sudden illness to meet the various training needs of those in workplace, school or community settings. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 110 (4 credit hours)****Welding and Fabrication**

Introduces the power sources used in shielded metal arc welding (SMAW) and gas metal arc welding (GMAW), along with equipment and filler metals used to produce a welded joint and welding principles along with the metallurgy of steel and welding. Covers shielded metal arc welding safety and shielded metal arc welding processes including flat, horizontal, vertical, and overhead welding techniques. Provides knowledge of theory, safety practices, equipment and techniques required for gas metal arc welding including different transfer methods and position welding. Introduces oxy-fuel welding and cutting, including safety, setup and maintenance of oxy-fuel welding and cutting equipment. Includes cutting, brazing, and welding techniques. Lecture/Lab: 4.0 credits (100.5 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 111 (1 credit hours)****Lean Safety Culture**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Provides students with intense hands-on laboratory instruction of lean safety culture concepts and the importance of developing a culture of continuous safe work habits. Institutes the ability to predict safety issues through hazard prevention. Analyzing accidents, along with human barriers to safety-based intervention, guides students to actively and effectively measure and evaluate safety procedures as a component of continuous improvement. Charges students with risk assessment activities and development of visual safety displays and delivering individual and group presentation to stakeholders. Integrated Lecture/Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IET 112 (1 credit hours)****Lean Manufacturing Concepts -TPS**

Instructs students in Lean Manufacturing concepts which will encompass the instructional methodologies of this course. Introduces the student to Lean Manufacturing concepts that provide the techniques for streamlining missions in any manufacturing environment. Implements hands-on processes to Lean Manufacturing. Provides the student with an understanding of workflow, velocity, and lead-time. Discusses how waste affects both profit and customer satisfaction. Guides students toward developing and quantifying lean strategies at every step of the manufacturing process. Instructs in the concepts and tools of Lean Manufacturing including types of waste, visual management, value stream analysis, flow, just-in-time, pull, and Kaizen. Integrated Lecture/Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IET 113 (1 credit hours)****Lean 5S Methodology**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Provides students with intense hands-on laboratory instruction of lean 5S principles and methods for implementing workplace organization. Instructs students on the lean 5S tools applied to organizing and maintaining workplace environments. Builds on the foundation of lean manufacturing concepts and culture by delivering a hands-on approach to the development of a safe organized working environment. Produces an understanding of the purpose and benefits behind Lean 5S methodology. Instructs the students on the importance of professionalism, teamwork, and communication skills. Participate in group activities and assignments to provide the student with workplace organization skills that are expected by employers upon employment entry. Integrated Lecture/Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IET 114 (1 credit hours)****Lean Problem Solving Methodology**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Provides students with intense hands-on laboratory instruction of lean problem-solving principles and methods. Instructs students on the Lean 8-Step Problem Solving process based on the Toyota Business Practice model. Imparts a systematic approach to addressing performance and behavioral qualities that are needed for effective and efficient problem-solving outcomes. Instructs the students how to clarify and break down a problem, set achievable targets, analyze the root cause, develop countermeasures, evaluate results processes, standardize the results, and learn from failures. Fosters the development of a customer first philosophy involving all the stakeholders. Instructs the students on the importance of professionalism, teamwork, and communication skills. Participate in group activities and assignments to provide the student with problem solving skills that are expected by employers. Integrated Lecture/Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IET 115 (1 credit hours)****Lean Machine Reliability**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Provides students with intense hands-on laboratory instruction of lean machine reliability concepts. Describes predictive and corrective maintenance and explains how these differ from preventive maintenance. Breaks down proactive maintenance and the underlying tools and integral operations and procedures. Instructs the students in the various individual units in a system and the steps in evaluating failure mode risks and countermeasures. Integrated Lecture/Lab: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IET 120 (4 credit hours)****Machine Tool Operations**

Introduces machining operations, procedures and machines used by multi-skilled industrial maintenance technicians. Introduces the safe and correct operation of lathes, milling machines, drill presses, metal saws and hand and power tools. Requires students to work with various measuring and layout tools found in industrial environments. Lecture/Lab: 4.0 credits (102 credit hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 121 (4 credit hours)****Basic Electricity**

Introduces the various elements of basic electricity and electronics including ohms law, the identification of electrical symbols, interpretation of schematics, cross-referencing prints, tracing circuits, interpreting sequential function charts, line drawings, and time charts. Introduces the student to AC and DC series and parallel circuits consisting of resistive, inductive, and capacitive loads. Discusses operation of particular electronic devices such as diodes and their applications. Demonstrates troubleshooting, safety, and the appropriate use of electrical measurement instruments, including digital and analog multimeters, voltmeters, and clamp-on ammeters. Instructs on basic control circuit configurations and components to provide the student with practical concepts of basic electrical circuits. Implementation of lean manufacturing concepts encompass the instructional methodologies of this course. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** MAT 126 or higher-level math course.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IET 128 (3 credit hours)****Introduction to Machine Tool Operation**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Introduces machining operations, procedures, and machines used by multi-skilled industrial maintenance technicians. Introduces the safe and correct operation of lathes, milling machines, drill presses, metal saws, and hand and power tools. Requires students to work with various measuring and layout tools found in industrial environments. Lecture: 1 credit (15 contact hours) Laboratory: 2 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IET 200 (1 credit hours)****General Tools**

Introduces safe and effective use of hand and power tools. Emphasizes the application and maintenance of the most common tools used by multi-skilled industrial maintenance technicians. Integrated Lecture/Lab: 1 credit (19.5 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**IET 201 (6 credit hours)****Electrohydraulics/Pneumatics**

Explains the fundamental concepts of fluid power and electro-fluid power systems. Covers the principles of fluid power, calculations of physical properties of fluids and their ability to do work. Introduces the various fluid power components, symbols, circuits. Introduces troubleshooting of fluid power components and systems with an emphasis on safety. Addresses fluids, filters, reservoirs, piping, pumps, actuators, accumulators, control valves, and combination circuits. Lecture/Lab: 6.0 credits (120 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 202 (4 credit hours)****Motor Controls and Sensing Devices**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Covers the diversity of motor control circuits and devices including: theory of operation and applications in automation control, troubleshooting, and repair. Introduces identification, installation, replacement, and troubleshooting of electronic input and output sensing devices, relays, motor starters, and contactors. Provides an introduction of proportional integral and derivative control. Includes automation output devices including AC, DC, relays, and motor starters along with sizing of components for various applications. Lecture: 2 credits (30 contact hours.) Laboratory: 3 credits (60 contact hours).

**Pre-requisite:** IET 121, or EET 119, or ELT 110 or (IMT 110 and IMT 111).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IET 203 (5 credit hours)****Programmable Logic Controllers**

Introduces Programmable Logic Controllers (PLC) and elements needed for an automated industrial control system. Introduces memory and project organization within a PLC and provides instruction in basic numbering systems, computer and PLC terminology. Introduces PLC control functions, program structures, language standards, wiring and troubleshooting methods, as well as, real world communications. Requires the student to program a PLC which may include a combination of ladder logic, structured text, sequential function chart and/or function block languages. Includes various protocols of industrial communications used between PLC controlled machines, PLC to PLC, PLC to computer, and computer to computer. Lecture/Lab: 5.0 credits (109.5 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 204 (6 credit hours)****Automated Motor Controls**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Introduces principles, applications, and elements needed for an integrated automated industrial control system. Integrates Programmable Logic Controllers (PLC) with AC and DC electric motor speed control using variable speed drives, variable frequency drives, and soft starters. Includes installation practices, logic fundamentals, and numbering systems relative to PLC programming of inputs, outputs, timers and counters, comparators, basic data manipulation, and safety circuits as well as, programming practices for VFD and VSD systems. Lecture: 3 credits (45 contact hours). Laboratory: 3 credits (90 contact hours).

**Pre-requisite:** [IET 121 or ELT 110 or EET 119 or (IMT 110 and IMT 111) with a minimum letter grade of "C"] and [IET 201 or (EET 270 and 271) or (IMT 220 and 221) with a minimum letter grade of "C"] or consent of Integrated Engineering Technology program coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IET 205 (4 credit hours)****Robot Maintenance**

Introduces robotics in regard to industrial robotic safety standards, applications, types of classes for industrial robots, basic system components, robotic motion concepts, key programming techniques, definitions and the common terms associated with computer integrated manufacturing (CIM) as it relates to robotic cells. Instructs students on the mastering concepts of preventive maintenance techniques required for a robot and their backup systems in addition to recovery procedures needed to interpret robot error codes and perform a safe recovery start up procedure on robotics equipment, as well as integrating robotic applications in a PLC-controlled, automated system. Lecture/ Lab: 4.0 credits (82.5 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 206 (5 credit hours)****Controls and Instrumentation**

Covers the diversity of control devices including: theory of operation, applications in automation control and troubleshooting and repair. Introduces identification, installation, replacement, and troubleshooting of automation controller circuit boards and modules. Includes the installation, maintenance and troubleshooting of common input devices. Provides for discussion of methods of motor controls including on-off, proportional, integral, and derivative including PID loop tuning and quality. Covers automation output devices including AC, DC, and servo motors, variable speed drives, relays, motor starters and sizing of components for various applications. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**IET 207 (4 credit hours)****Electro-Hydraulics and Pneumatics**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Explains the fundamental concepts of fluid power and electro-fluid power systems. Covers the principles of fluid power, calculations of physical properties of fluids, and their ability to do work. Introduces the various fluid power components, symbols, and circuits. Introduces troubleshooting of fluid power components and systems with an emphasis on safety. Addresses fluids, filters, reservoirs, piping, pumps, actuators, accumulators, control valves, and combination circuits. Lecture: 2 credits (30 contact hours) Laboratory: 2 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IET 208 (4 credit hours)****Mechanical Drives**

Instructs students in lean manufacturing concepts which will encompass the instructional methodologies of this course. Introduces safety, maintenance techniques, and procedures used to maintain industrial equipment, including industrial couplings, chains, sprockets, belts, bearings, shafts, brakes, clutches gears, and cams. Addresses the principles of power transmission, calculations of speed and force transmission. Lecture: 2 credits (30 contact hours) Laboratory: 2 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IET 1091 (0.7 credit hours)****Basic OSHA Safety**

Introduces OSHA and the OSHA regulations that apply to the auto manufacturing industry. Lecture/Lab: 0.7 credits (12 contact hours).

**Components:** LEC: Lecture

**IET 1092 (0.4 credit hours)****Hoists and Cranes**

Introduces the basic concepts and safety rules and issues related to the use of overhead cranes and hoists. Lecture/Lab: 0.4 credit (6 contact hours).

**Components:** LEC: Lecture

**IET 1093 (1.2 credit hours)****Rigging Awareness & Fundamentals**

Introduces the basic concepts and safety rules and issues related to the use of rigging equipment, attachment components, calculating sling angle stresses, and safe lifting and turning loads. Lecture/Lab: 1.2 credits (25.5 contact hours)

**Components:** LEC: Lecture

**IET 1094 (0.7 credit hours)****First Aid, CPR, & AED**

Provides knowledge and skills necessary to help sustain life and minimize the consequences of injury or sudden illness until advanced medical help arrives. Includes first aid, CPR and AED lessons to meet the various training needs of those in workplace, school or community settings. Lecture/Lab: 0.7 credits (16.5 contact hours).

**Components:** LEC: Lecture



**IET 1101 (0.5 credit hours)****Introduction to Arc Welding**

Introduces the power sources used in shielded metal arc welding (SMAW) and gas metal arc welding (GMAW), along with equipment and filler metals used to produce a welded joint and welding principles along with the metallurgy of steel and welding. Lecture: 0.5 credits (7.5 contact hours).

**Attributes:** Due to Inactivity

**Components:** LEC: Lecture

**IET 1201 (0.1 credit hours)****Intro to Machining Operations**

Introduces machining operations. Focuses on the safe application of the most common machining procedures and machines used by multi-skilled industrial maintenance technicians. Lecture: 0.1 credits (1.5 contact hours).

**Components:** LEC: Lecture

**IET 1202 (0.6 credit hours)****Turning**

Introduces safe operation of lathes, primarily engine and tool room lathes. Addresses various types of lathes used in industry, their component parts, and associated safety precautions. Emphasizes the most common lathe operations required by multi-skilled industrial maintenance technicians. Lecture/Lab: 0.6 credits (16.5 contact hours).

**Components:** LEC: Lecture

**IET 1203 (0.8 credit hours)****Milling**

Introduces safe operation of milling machines, primarily vertical milling machines. Addresses the various types of milling machines used in industry, their component parts, and associated safety precautions. Emphasizes the most common milling operations required by multi-skilled industrial maintenance technicians. Lecture/Lab: 0.8 credits (22.5 contact hours).

**Components:** LEC: Lecture

**IET 1204 (0.5 credit hours)****Drill Press**

Introduces safe operation of drill presses, primarily the sensitive drill press. Addresses the various types of drilling machines used in industry, their component parts, and associated safety precautions. Emphasizes the most common drilling operations required by multi-skilled industrial maintenance technicians. Lecture/Lab: 0.5 credits (13.5 contact hours).

**Components:** LEC: Lecture

**IET 1205 (0.4 credit hours)****Saws**

Introduces safe operation of saws, primarily the horizontal and contour band saw. Addresses the various types of metal saws used in industry, their component parts, and associated safety precautions. Emphasizes the most common sawing operations required by multi-skilled industrial maintenance technicians. Lecture/Lab: 0.4 credits (10.5 contact hours).

**Components:** LEC: Lecture

**IET 1206 (0.7 credit hours)****Hand and Power Tools**

Introduces safe and effective use of hand and power tools. Emphasizes the application of the most common tools used by multi-skilled industrial maintenance technicians. Lecture/Lab: 0.7 credits (16.5 contact hours).

**Components:** LEC: Lecture

**IET 1207 (0.9 credit hours)****Measuring and Layout Tools**

Introduces measuring and layout tools commonly found in industrial environments. Emphasizes the safe application of the most common tools used by multi-skilled industrial maintenance technicians. Lecture: 0.9 credits (21 contact hours)

**Components:** LEC: Lecture

## Integrated Reading and Writing (IRW)

**IRW 85 (4 credit hours)****Integrated Reading and Writing I**

Emphasizes proficiency in reading comprehension, vocabulary, and critical thinking skills to prepare students for college reading through individualized and/or group instruction and practice. Applies writing as a process with emphasis on paragraph-length assignments, basic conventions of standard English as these apply to students' own work, writing in response to reading, and the use of technology to produce and share writing. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement Policy.

**Attributes:** Developmental/Remdial Learning Skills

**Components:** LEC: Lecture

**IRW 95 (4 credit hours)****Integrated Reading and Writing**

Emphasizes critical reading skills to develop vocabulary techniques, active reading strategies, comprehension accuracy, and interpretation of visual elements in texts. Applies writing as a process with instruction in intermediate writing skills and technology emphasizing organization, idea development through critical thinking, and editorial improvements through multi-paragraph writing. Introduces basic research and documentation through writing in response to reading. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement Policy.

**Attributes:** Developmental/Remdial Learning Skills

**Components:** LEC: Lecture

**IRW 100 (3-4 credit hours)****Integrated Reading and Writing Workshop**

Improves reading comprehension and vocabulary of expository materials. Applies active reading strategies to college-level materials. Provides parallel and supplemental review of English skills needed. Must withdraw simultaneously from both IRW 100 and the concurrent ENG 101 course if withdrawal is initiated. Co-Requisite: ENG101. Lecture: 3-4 credits (45-60 contact hours).

**Pre-requisite:** Placement by KCTCS Assessment and Placement Policy for either Reading or English.

**Attributes:** Other

**Components:** LEC: Lecture

## Interdisciplinary Early Childhood (IEC)

**IEC 101 (3 credit hours)****Orientation to Early Childhood Education**

Introduces information related to designing appropriate environments and curricula for infants, toddlers, and preschoolers. Explores the historical and current influences on early childhood education. Includes twenty (20) hours of required field experience. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**IEC 102 (3 credit hours)****Foundations of Early Childhood Education**

Focuses on creating an environment and curricula that support cognitive, physical, creative, language, social, and emotional development of infants, toddlers, and preschoolers. Presents knowledge of appropriate child assessment, ethical decision-making in the early childhood profession and accommodations for children with disabilities. Includes ten (10) hours of required field experiences. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 130 (3 credit hours)****Early Childhood Development**

Addresses the physical, language, cognitive, social and emotional development of children beginning with conception. Includes methods of observation that are practiced during field experiences. This course requires ten (10) hours of field experience. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 170 (3 credit hours)****Observation and Assessment**

Presents the process of observation, documentation, and assessment. Includes assessment skills, identification of appropriate methods and instruments, and linking results to planning, guidance, and instruction. Emphasizes recommended practices, ethical and legal responsibilities for educators, and the role of the family in the process. Includes ten (10) hours of required field experience. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IEC 101 or IEC 102 or IEC130 or permission of IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 180 (3 credit hours)****Approaches to Early Childhood Education Curriculum**

Introduces theoretical perspectives for curriculum in early childhood programs. Teaches the design of curricula and examines the societal factors that impact programming for children. Includes ten (10) hours of required field experience. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IEC 101 or IEC 102 or IEC 130 or permission of IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 200 (3 credit hours)****Child Guidance**

Examines appropriate methods for guiding children and promoting the development of prosocial behaviors. This course requires ten (10) hours of field experience. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IEC 101 or IEC 130 or permission of the IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 210 (3 credit hours)****Families and Communities in Early Childhood Education**

Examines community programs that focus on forming partnerships with families to support child development and family well-being. Builds an awareness of family in context of a diverse society to create respect, build reciprocal relationships, and empower families. Required: 10 hours of field experience. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 216 (3 credit hours)****Literacy and Language in IECE**

Presents the interaction of language therapy and instruction techniques and the resulting effect on language and literacy development. This course requires five (5) hours of required field experience. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IEC 180 or permission of the IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 221 (3 credit hours)****Creative Expressions in IECE**

Addresses the role of creativity as it relates to the development of young children. Studies a variety of art music, drama, and movement experiences that encourage creative expression in young children. Includes the implementation of appropriate creative activities in a child-centered environment. This course requires five (5) hours of field experience. Lecture 3 credits (45 contact hours).

**Pre-requisite:** IEC 180 or permission of the IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 230 (3 credit hours)****Business Administration of ECE Programs**

Introduces establishing, operating and/or owning an early childhood program. Includes legal forms for early childhood programs, finance, accounting, insurance, governmental regulations and assistance, economics, marketing and management principles. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 235 (3 credit hours)****Introduction to Inclusive Education**

Presents the types of exceptionalities that occur in the development of children with an emphasis on state and federal laws that impact services. Introduces assessment, referral processes and sources, education plans, family service plans, center-based and home-based care, adaptations and assistive technology, and ethical considerations. This course requires ten (10) hours of field experience. Lecture 3 credits (45 contact hours).

**Pre-requisite:** IEC 180 or permission of the IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 240 (3 credit hours)****Administration of Early Childhood Education**

Focuses on the administrative responsibilities of creating and implementing education programs for children and their families with an emphasis on the administrative, organizational, and legal responsibilities in operating early childhood programs. Includes ten (10) hours of required field experience. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 246 (3 credit hours)****Sciences and Math in IECE**

Applies the concepts and principles of science, social studies, mathematics, and health in learning experiences for young children. Includes five (5) hours of required field. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** IEC180 or permission of IECE program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 250 (3 credit hours)****School Age Child Care**

Provides the student with specialized knowledge, skills, and abilities for working with school age children. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 260 (3 credit hours)****Infant and Toddler Education and Programming**

Examines the developmental and educational needs of children from birth to age three. Provides an opportunity for students to plan, prepare, and implement the care and educational environment for children birth to age three by integrating an understanding of the physical, social, emotional, and cognitive development with developmentally appropriate practices for each stage. This course requires ten (10) hours of field experience. Lecture: 3 hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**IEC 291 (3 credit hours)****IECE Practicum/Cooperative Education**

Requires participation in supervised teaching experiences in early childhood settings where practical skills are applied. Includes observing, planning, implementing and assessing learning experiences based on developmentally appropriate practices. Required: One Hundred and eighty (180) field hours of experience. Practicum: 3.0 credits (180 contact hours/ratio 60:1).

**Pre-requisite:** Program Coordinator's Approval.

**Attributes:** Technical

**Components:** PCM: Practicum

## Interior Finishing (INF)

**INF 125 (2 credit hours)****Introduction to Drywall**

This course includes cutting and hanging drywall. The manufacturing processes are covered along with product options for special applications. Installation of metal studs in fabrication of walls is included also. Laboratory: 2 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**INF 131 (2 credit hours)****Advanced Drywall**

This course includes the processes of finishing drywall using tape, corner bead and joint compound. These materials are used within the context of tasks performed in residential work. Laboratory: 2 credits (90 contact hours).

**Attributes:** Course not offered in two years

**Components:** LAB: Laboratory

## Japanese (JPN)

**JPN 101 (4 credit hours)****Beginning Japanese I**

A course in first semester Japanese language. Lecture: 4 credits (60 contact hours)

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**JPN 102 (4 credit hours)****Beginning Japanese II**

A course in second semester Japanese language. Lecture: 4 credits (60 contact hours)

**Pre-requisite:** JPN 101 or equivalent.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**JPN 201 (3 credit hours)****Intermediate Japanese I**

Focuses on developing listening, speaking, reading and writing skills in early intermediate level of Japanese. Lecture: 3 credits (45 contact hours)

**Pre-requisite:** JPN 102/RAE 121 or equivalent.

**Attributes:** Other

**Components:** LEC: Lecture

**JPN 202 (3 credit hours)****Intermediate Japanese II**

Focuses on developing listening, speaking, reading and writing skills in upper intermediate level of Japanese. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** JPN 201.

**Attributes:** Other

**Components:** LEC: Lecture

## Journalism (JOU)

**JOU 101 (3 credit hours)****Introduction to Journalism**

This course surveys the history and social theories of journalism and introduces students to contemporary journalistic practice. Students will learn about the function and operation of print, electronic and on-line news media. Issues and concepts to be covered include the relationship of government to media; press freedom and controls; media ethics, and the impact of global communications. The course also covers the relationship of journalism to advertising, public relations and telecommunications, particularly with regard to new technologies. Lecture: 3.0 credits (45 contact hours)

**Attributes:** Other

**Components:** LEC: Lecture

**JOU 204 (3 credit hours)****Writing for the Mass Media**

An introduction to the concepts and techniques of media writing. This course offers hands-on instruction in information gathering, organization, and writing for print, broadcast and on-line media. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (60/30:1 ratio contact hours).

**Pre-requisite:** JOU 101 or Consent of Instructor.

**Components:** LAB: Laboratory, LEC: Lecture

## Journalism - Advertising - Telecommunications (JAT)

### JAT 101 (3 credit hours)

#### Introduction to Communication Media

Lectures, readings, and other materials provide an introductory survey of the journalism, advertising, and telecommunications professions. This course will foster an understanding of the historical development, theory, effects, regulation, practice, and professional opportunities of these three industries. Students will gain an awareness of the possibilities and limitations of evolving communication technologies, preparing them to become intelligent consumers, producers, and managers of communication media. Lecture: 3 credits (45 contact hours)

**Attributes:** Other

**Components:** LEC: Lecture

### JAT 241 (1-4 credit hours)

#### Communications Practicum

Supervised laboratory work in the media of mass communications, with meetings for evaluation of work, study of techniques, analyses of problems, and reports. May be repeated to a maximum of four credits. (Offered in Community College System only.) Independent Study 1.0 - 4.0 credit (15 contact hours)

**Attributes:** Other

**Components:** IND: Independent Study

## Kentucky Medication Aide (KMA)

### KMA 100 (5 credit hours)

#### Kentucky Medication Aide

Prepares a Kentucky Medicaid Nurse Aide to administer specific medications in a long term care facility as delegated and supervised by a licensed nurse. Lecture/Lab: 5.0 credits (105 contact hours).

**Pre-requisite:** [(MNA 100 or NAA 100 or NAA 125) and six months of work experience as a Kentucky Medicaid Nurse Aide] or Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

## Kinesiology and Health Promotion (KHP)

### KHP 100 (1 credit hours)

#### Walking

Instruction in a variety of motor skill activities. Courses are designed for students at a beginner level. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit. Lab: 1 credit (15 contact hours)

**Attributes:** Other

**Components:** LAB: Laboratory

### KHP 107 (1 credit hours)

#### Fitness

Instruction in a variety of motor skill activities. Courses are designed for students at a beginner level. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit. Lab: 1 credit (15 contact hours)

**Attributes:** Other

**Components:** LAB: Laboratory

### KHP 129 (1 credit hours)

#### Beginning Weight Training

Instruction in a variety of motor skill activities. Courses are designed for students at a beginner level. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit. Lab: 1 credit (15 contact hours)

**Attributes:** Other

**Components:** LAB: Laboratory

### KHP 134 (1 credit hours)

#### Cross-training

Instruction in a variety of motor skill activities. Courses are designed for students at a beginner level. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit. Lab 1 credit (15 contact hours)

**Attributes:** Other

**Components:** LAB: Laboratory

### KHP 136 (1 credit hours)

#### Advanced Walking for Fitness

Instruction in a variety of motor skills activities. Courses are for students who already possess intermediate skills in the activity. Instructors will assess skill at start of course. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit. Assignment of specific title will occur internally in the department. Laboratory: 3 hours.

**Pre-requisite:** Completion of comparable service course or demonstrated competency.

**Attributes:** Other

**Components:** LAB: Laboratory

### KHP 138 (1 credit hours)

#### Beginning Yoga

Provides students with instruction and activities associated with beginning yoga. Lab: 1 credit (30 contact hours)

**Attributes:** Other

**Components:** LAB: Laboratory

### KHP 145 (3 credit hours)

#### Concepts of Health and Fitness

Current concepts of health and fitness covering such topics as the benefits of physical fitness, principles of fitness training, prevention of cardiovascular disease, and basic concepts of nutrition and weight management. Emphasis will be on the promotion of health lifestyles. Lecture: 3 credits (45 contact hours)

**Attributes:** Other

**Components:** LEC: Lecture

### KHP 150 (3 credit hours)

#### Personal Health Behavior

Prepares students to make informed choices about health issues and behaviors and to take responsibility for their health and well-being. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

### KHP 160 (3 credit hours)

#### Personal Nutrition and Fitness

Introduces the importance of daily diet and nutrition. Addresses the role of the personal trainer in helping clients to recognize and decrease risks for chronic diseases. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**KHP 190 (2 credit hours)****First Aid and Emergency Care**

A study of first aid subject matter and orientation in the various first aid teaching methods. Lectures and demonstrations on first aid measures with skill training. American Red Cross Certificate made available.

Lecture: 1.0 credit hour; Laboratory: 2.0 credit hours.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**KHP 225 (3 credit hours)****Exercise Techniques and Physical Training**

Focuses on the core components of personal training. Provides information and resources necessary to pass personal fitness trainer certification. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BIO 135 or MSG 100 (or consent of instructor).

**Co-requisite:** KHP 235.

**Attributes:** Other

**Components:** LEC: Lecture

**KHP 230 (3 credit hours)****Human Health and Wellness**

The study of health promotion, wellness, and disease prevention concepts as applied to individual, familial, and community health. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**KHP 235 (2 credit hours)****Personal Trainer Practicum**

Students will apply personal training principles and techniques and demonstrate skills with clients in various settings under instructor and preceptor supervision. Practicum: 2.0 credits (60 contact hours).

**Pre-requisite:** BIO 135 or MSG 100.

**Co-requisite:** KHP 225.

**Attributes:** Other

**Components:** PCM: Practicum

**KHP 240 (3 credit hours)****Nutrition and Physical Fitness**

Focuses on the inter-relationship between nutrition and physical fitness. Provides the student with the information necessary to formulate an individualized plan for achievement and maintenance of adequate nutrition and physical fitness while addressing weight control. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

## Library Information Technology (LIT)

**LIT 115 (3 credit hours)****Introduction to Reference Services**

Introduces library reference sources and services. Includes reference interview techniques, print and digital information sources, bibliographic and full text databases, and digital access and retrieval skills. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 120 (3 credit hours)****Readers' Advisory Services**

Examines library readers' advisory services. Includes readers' advisory resources, library programming, book discussion groups, collection development, formats for books, ebooks and audio books, online applications, and marketing. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 124 (3 credit hours)****Library Administration**

Introduces basic principles of library organization and management. Includes the planning process, policies, ethical and legal issues, budgeting, and human resources. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 132 (3 credit hours)****Library Technical Services**

Provides an overview of library technical services, including acquisitions, processing, cataloging and classification. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 200 (3 credit hours)****Seminar in Kentucky Literature**

Introduces Kentucky literature, recognizing, studying, and examining distinct regional differences and similarities with concentration on major contemporary and traditional Kentucky writers and their texts. Approaches may include a group of authors, an historical period or aesthetic movement, a genre, a theme, or an aspect of literary theory. Lecture: 3 credits (45 contact hours).

**Attributes:** Due to Inactivity, Technical

**Components:** LEC: Lecture

**LIT 240 (3 credit hours)****Literature of Appalachian Kentucky**

Introduces the Appalachian literature of Kentucky concentrating on the major contemporary and traditional writers who are distinctly identified with that region. Approaches may include a group of authors, an historical period or aesthetic movement, a genre, a theme, or an aspect of literary theory. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 242 (3 credit hours)****Literature of Western Kentucky**

Introduces the literature of Western Kentucky concentrating on the major contemporary and traditional writers who are distinctly identified with that region. Approaches may include a group of authors, an historical period or aesthetic movement, a genre, a theme or an aspect of literary theory. Lecture: 3 credits (45 contact hours).

**Attributes:** Due to Inactivity, Technical

**Components:** LEC: Lecture

**LIT 243 (3 credit hours)****Library Services for Children**

Introduces library services for children grades K - 6 and their caregivers. Includes surveys of child development, library programming, children's literature, collection development, and legal issues. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture



**LIT 245 (3 credit hours)****Library Services for Young Adults**

Introduces library services for young adults from 6th to 12th grades. Includes programming, collection development, young adult literature, the use of the Internet, and ethical and legal issues. Emphasizes the development and promotion of young adult library services. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 247 (3 credit hours)****Library Services for Adults**

Introduces library services for adults. Includes adult literature, collection development, programming, circulation services, reference services, and customer relations. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 248 (3 credit hours)****Library Services for Preschool Children**

Introduces library services for preschool children, age infant to 5 years. Includes library programming development and production, preschool children's literature, services for parents and for child care services, collection development, and legal issues. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 280 (3 credit hours)****Genealogy Services in Libraries**

Introduces genealogy services in libraries. Surveys genealogy data sources, research methods, collection development, patron referrals, legal and ethical issues, library programming, and marketing. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LIT 285 (3 credit hours)****History of Libraries**

Examines the development of libraries from ancient times to the present, with emphasis on academic and public libraries in the United States. Includes the interaction of libraries with economic, social, and political trends in the larger society. Lecture: 3 credit (45 contact hours).

**Components:** LEC: Lecture

**LIT 299 (1-3 credit hours)****Selected Topics in Library Information Technology**

Expands library course offerings as new technologies develop and/or as new issues evolve. Lecture: 1.0 - 3.0 credits (15-45 contact hours).

**Attributes:** Due to Inactivity, Technical

**Components:** LEC: Lecture

## Linguistics (LIN)

**LIN 175U (3 credit hours)****Information Literacy**

A foundational course that introduces students to the cross-disciplinary skills needed to assess information needs, and access and evaluate information sources. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science, University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

## Logistics and Operations Management (LOM)

**LOM 100 (3 credit hours)****Introduction to Logistics Management**

Presents an overview of general logistics concepts and organizational issues; inventory management and customer service in logistics; and transportation and third party logistics. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**LOM 101 (3 credit hours)****Transportation Management**

Presents an overview of the role of transportation and pricing issues; transportation modes and terminals; and transportation risk management and global management issues. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** LOM 100.

**Attributes:** Technical

**Components:** LEC: Lecture

**LOM 102 (3 credit hours)****Supply Chain Management**

Presents an overview of supply chain management and financial analysis; inventory management skills and techniques; and supply chain design and sustainability solutions. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** LOM 100.

**Attributes:** Technical

**Components:** LEC: Lecture

**LOM 180 (3 credit hours)****Project Management**

Introduces practical approach to managing essential resources, people, and deadlines, and real-world challenges required to bring any project in on time, on target, and on budget. Covers skills and concepts of essential project management processes, defining requirements, schedules, risk management assessment, change control, and project management software applications. Provides students with a practical approach to developing projects with opportunities to apply skills and elements by completing activities based upon real-time projects and case studies. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Digital literacy or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**LOM 202 (3 credit hours)****Applied Supply Chain Management**

Provides an understanding of the importance of individual components (supplies, manufacturers, distributors, and customers) in the operation of a supply chain. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** LOM 102.

**Attributes:** Technical

**Components:** LEC: Lecture



**LOM 210 (3 credit hours)****Lean for Logistics**

Introduces students to the principles and practices of lean operations in relation to the field of logistics. Incorporates a lean simulation activity and examples from lean practitioners in the management of supply chain operations. Discusses core lean principles with an emphasis on work cells and Just In Time (JIT) practices. Lecture: 3.0 credits (45 contact hours)/

**Pre- or co-requisite:** LOM100 Introduction to Logistics Management.

**Attributes:** Technical

**Components:** LEC: Lecture

## Management (MGT)

**MGT 200 (3 credit hours)****Small Business Management**

Students are introduced to the many facets of establishing, operating and/or owning a small business. Topics include legal forms of business organization, finance, accounting, insurance, governmental regulations and assistance, economics, marketing, and management principles. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or MGT 160 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 210 (3 credit hours)****Managing Quality**

Introduces students to fundamental concepts, principles and practices used to manage and improve quality in organizations. Explores basic quality concepts including continuous improvement, customer focus, value-added concept, quality tools, statistical techniques, quality awards, quality standards, scientific management using data, designing products and services for quality, and the historic influences of leaders in quality management. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** BAS 160.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 240 (3 credit hours)****Business Ethics and Self Management**

Emphasizes the need for managers to be self-directed to make ethical decisions. Explores moral principles, community standards and the ethics of decision making at personal and professional levels. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 256 (3 credit hours)****Operations Management**

Concepts and methods for economical planning and control of activities required for transforming a set of inputs into specified goods or services are introduced. Emphasis is given to forecasting, decision analysis, cost analysis, design of production systems, production/marketing relationships, operations planning and control, and the importance of global competitiveness. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BAS 160.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 258 (3 credit hours)****Project Management**

Provides tools used in project management to accomplish the goals of society's varied organizations. Provides insight into human behavior, knowledge of organizational issues, and skill with quantitative methods to allow successful project management. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 274 (3 credit hours)****Human Resource Management**

The student is introduced to the basic methods of recruiting, selecting, training, compensating, and maintaining a productive workforce. Concepts of effective employee relations including collective bargaining, contract administration, and safety and health programs are introduced. Techniques for systematic human resource planning and development of policies consistent with government regulations are emphasized. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MGT 283 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 283 (3 credit hours)****Principles of Management**

Provides students with an overview of management beginning with the key functions of planning and decision making, organizing, leading and controlling. Explores the many aspects of management including human behavior, motivation, leadership, change and teams. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BAS 160 or MGT 160 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 287 (3 credit hours)****Supervisory Management**

Students study the roles and responsibilities of the supervisor, emphasizing human relations skills while recognizing the behavioral factors of individuals and groups in the work environment. Conceptual knowledge base and skills to support the supervisor's role and responsibilities are identified and developed. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MGT 283 or consent of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 292 (3 credit hours)****Strategic Management**

Introduces students to strategic planning and management concepts and processes in this capstone course. Provides in-depth examination of strategic planning and implementation. Provides a framework for internal and external organizational analysis. Applies decision-making, problem-solving, accounting and financial analysis in reviewing contemporary businesses and industries. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MGT 283 or BAS 283.

**Attributes:** Technical

**Components:** LEC: Lecture

**MGT 299 (1-3 credit hours)****Selected Topics in Management**

Technological developments, new business issues, and/or local management topics are presented and studied. Prerequisite: Consent of instructor. Lecture: 1-3 credits (15-45 contact hours) (variable).

**Components:** LEC: Lecture

## Manufacturing (MFG)

**MFG 125 (3 credit hours)****Fundamentals of Mechatronics A**

Introduces the student to the basics of Mechatronic systems and the operation of electrical, mechanical, pneumatic/hydraulic, and Programmable Logic Control components in an advanced manufacturing system. Presents a detailed explanation of the relationships of voltage, current, resistance, power, the operation of mechanical, pneumatic/hydraulic components, and programming fundamentals in industrial systems. Includes an overview of the fundamentals of alternating and direct current, rotating machinery, digital devices, and programming. (Credit may not be earned for this course if the student has earned credit for MFG 135). Lecture/Lab: 3.0 credit hours (60 contact hours).

**Pre-requisite:** ENGT110 and at least five other hours of approved technical electives (see Manufacturing Engineering Technology technical elective list) or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MFG 130 (3 credit hours)****Fundamentals of Mechatronics B**

Combines previously learned basic operational and analytical skills as related to a Mechatronics/Advanced Manufacturing system. Applies concepts to a complete advanced manufacturing system wherein various subsystems are collectively used to build a more complex manufacturing system. Teaches the students to troubleshoot a multitude of problems involved in electrical, mechanical, and hydraulic/pneumatic systems.

(Credit may not be earned for this course if the student has earned credit for MFG 135). Lecture/Lab: 3.0 credit hours (60 contact hours).

**Pre-requisite:** MFG125 Fundamentals of Mechatronics A or consent of instructor.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**MFG 135 (6 credit hours)****Fundamentals of Mechatronics**

Introduces the student to the basics of Mechatronic systems and the operation of electrical, mechanical, pneumatic/hydraulic, and Programmable Logic Control components in an advanced manufacturing system. Combines basic operational and analytical skills with critical thinking and applied troubleshooting. Teaches the students to troubleshoot a multitude of problems involved in typical electrical, mechanical, and hydraulic/pneumatic systems. (Credit may not be earned for this course if the student has earned credit for MFG 125 or MFG 130.) Lecture/ Lab: 6.0 credit hours (120 contact hours).

**Pre-requisite:** ENGT110 and at least five other hours of approved technical electives (see Manufacturing Engineering Technology technical elective list) or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MFG 175 (2 credit hours)****Lean Operations**

Introduces students to the principles and practices of lean operations. Employs a lean simulation and examples from Toyota and other lean practitioners to introduce students to lean practices. Discusses Total Productive Maintenance. Lecture/Lab: 2.0 credit hours (30 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MFG 256 (3 credit hours)****Production Management**

Procedures and techniques employed in a manufacturing plant, analysis of production planning and control, time and motion study, quality control, plant layout, and budgetary control. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MFG 265 (4 credit hours)****Robotics and Industrial Automation**

A study of principles and techniques used in automated industrial systems are studied. Emphasis is placed on programming, applications, and interfacing of automated machinery to manufacturing workcells.

Lecture: 3 credits (45 contact hours)n Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** ET 256 or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MFG 295 (1 credit hours)****Manufacturing Engineering Technology Capstone**

Serves as the capstone course for the Manufacturing Engineering Technology degree program. Integrates prior learning outcomes into a single integrated learning experience. Includes preparation for an exit exam that all program graduates must take. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Manufacturing Engineering Technology Program

Declaration OR Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## Manufacturing Systems Technology (MST)

**MST 150 (9 credit hours)****Multi-Skilled Systems Technician**

Introduces the systems approach to the operation of electrical components and the relationship of voltage, current, resistance, and power in industrial systems. Provides an overview of alternating and direct current fundamentals. Introduces the systems approach to the operation of mechanical components and the relationship of their application in industrial systems. Provides an overview of rotating machinery fundamentals. Introduces the systems approach to the operation of hydraulic / pneumatic components and the relationship of their application in industrial systems. Provides an overview of digital fundamentals. Lecture/Lab: 9.0 credits (180 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MST 200 (3 credit hours)****Advanced Hydraulic Systems**

The advanced hydraulic systems class will cover design, repair, and troubleshooting of hydraulic systems. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FPX 100, FPX 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**MST 201 (2 credit hours)****Advanced Hydraulic Systems Lab**

The advanced hydraulic systems lab will cover design, repair, and troubleshooting of hydraulic systems. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** FPX 100, FPX101.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MST 204 (3 credit hours)****Advanced Pneumatic Systems**

Design, repair, and troubleshooting of pneumatic systems will be covered in this course. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** FPX 100, FPX 101.

**Attributes:** Technical

**Components:** LEC: Lecture

**MST 205 (2 credit hours)****Advanced Pneumatic Systems Lab**

Component repair and system troubleshooting will be covered in this lab.

**Pre-requisite:** FPX 100, FPX 101

**Attributes:** Technical

**Components:** LAB: Laboratory

**MST 206 (3 credit hours)****Electrohydraulics**

Introduces electronic/electrical controls as it pertains to hydraulic valve control with the emphasis on automation, robotic and servo control. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (ENGT 110 and FPX 100) or Consent of Instructor.

**Co-requisite:** MST 207.

**Attributes:** Technical

**Components:** LEC: Lecture

**MST 207 (2 credit hours)****Electrohydraulics Lab**

Introduces electronic/electrical controls as it pertains to hydraulic valve control with the emphasis on automation, robotic and servo control. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** (ENGT 111 and ENGT 113 and FPX 101) or Consent of Instructor.

**Co-requisite:** MST 206.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Marine Technology (MRN)

**MRN 100 (3 credit hours)****Intro to Marine Technology**

Provides fundamental concepts of nautical science expected of personnel working aboard an inland towing vessel. Includes basic terminology, types of equipment encountered aboard the vessel, skill sets needed in day-to-day operations, and a general knowledge of towboat operations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor consent.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MRN 101 (3 credit hours)****Anatomy of a Towboat**

Introduces components found on modern towboats with emphasis on an overview of all areas of the vessel from the wheelhouse to the engine room to the external components. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MRN 102 (3 credit hours)****Basic Marine Safety**

Provides an overview of risk-based decision making skills for assessing and managing marine hazards to prevent marine accidents or casualty. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MRN 103 (3 credit hours)****Applied Marine Weather**

Covers fundamental maritime weather concepts to plan safe and efficient voyages. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MRN 104 (3 credit hours)****Marine Crew Wellness**

Examines how nutrition, exercise, and disease affect the crewmembers' ability to maintain a U.S. Coast Guard license. Focuses on nutrition and exercise programs while working, and prevention of disease. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MRN 200 (3 credit hours)****Shipboard Deck Operations**

Provides specifics of responsibilities, policies, training, safety and rigging procedures for towboat personnel. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MRN 100.

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 201 (3 credit hours)****Rules of the Road**

Provides an in-depth analysis of the United States Coast Guard (USCG) Navigation Rules with an emphasis on the history and interpretation of the rules. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 202 (3 credit hours)****Piloting and Navigation**

Identifies the effect of inland waterway prevailing conditions on vessels; provides instruction on locking procedures, radio telephone regulations, hydrology, and piloting skills. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 203 (3 credit hours)****Environmental Protection Rules**

Provides analysis of environmental regulations governing the marine industry. Explores the environmental practices of vessels on the inland waterway systems and the governing agencies which establish industry regulations. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MRN 204 (5 credit hours)****Marine Electrical Systems**

Explores and applies the theory of electricity with an emphasis on power systems, circuits, safety procedures, and maintenance measures needed to maintain electrical systems aboard towing vessels. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 206 (5 credit hours)****Marine Diesel**

Introduces the operation and components of a marine diesel engine with emphasis on diesel engine theory, safety precautions, internal and external components, and contributing operation systems. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 208 (3 credit hours)****Inland River Systems**

Explores the U.S. inland waterway system and its tributaries as they relate to the inland marine industry and the movement of cargos. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 212 (5 credit hours)****Marine Fluid Systems**

Incorporates practical experience in fluid power theory, component identification and application, schematic reading, and basic calculations related to marine fluid systems. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MRN 214 (4 credit hours)****Marine Refrigeration Systems**

Introduces the fundamentals of refrigeration, including use of tools, test equipment, materials, environmental issues, and safety. Lecture/Lab: 4.0 credits (69 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Marketing (MKT)

**MKT 155 (3 credit hours)****Personal Selling**

The professional selling process which involves a series of interrelated activities is introduced. Emphasis is placed on planning and delivery of sales presentations. The six selling steps are examined - prospecting, qualifying, presenting, answering objections, closing, and the after-sale service. Students demonstrate effective sales techniques through simulation and role playing. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MKT 282 (3 credit hours)****Principles of Marketing**

Introduces the marketing function and how it is organized in various types of business organizations. Focuses on the marketing mix of product, price, distribution and promotion with attention to the marketing concept. Explores the impact of social responsibility and international marketing on the marketing function.. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160 or MGT 160 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MKT 290 (3 credit hours)****Advertising and Promotion**

The principles of advertising will be introduced to the student. Topics will include economic and social aspects; advertising research; media strategy; consumer behavior; and legal issues in advertising. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** BAS 282/MKT 282.

**Attributes:** Technical

**Components:** LEC: Lecture

**MKT 291 (3 credit hours)****Retail Management**

Retail structure, merchandising, promotions, store control, and decision making are examined in this course. Fundamental principles of store organization, consumer behavior, and customer service are addressed. Retailing trends, opportunities, and problems are included also. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MKT 293 (3 credit hours)****Buying and Merchandising**

Decision making strategies are used to solve problems inherent in merchandise selection. Analysis of financial statements and their relationship to buying situations are included, along with cost control and the establishment of sales goals and objectives. Mark-ups, reduction planning, unit cost control, and other computations are emphasized. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** BAS 291/MKT 291.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**MKT 295 (3 credit hours)****Consumer Behavior**

Introduces students to the fundamental concepts and principles of consumer behavior. Examines how these concepts are used by consumers when making purchasing decisions. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** BAS 160.

**Attributes:** Technical

**Components:** LEC: Lecture

**MKT 299 (1-3 credit hours)****Selected Topics in Marketing**

Technological developments, new business issues, and/or local marketing topics are presented and studied. Prerequisite: Consent of Instructor. Lecture: 1-3 credits (15-45 contact hours) (variable).

**Components:** LEC: Lecture

## Masonry (MSY)

**MSY 105 (3 credit hours)****Introductory Masonry**

Introduces various types of mortar and cement along with the use of basic masonry tools. Emphasizes different methods of spacing materials on a construction site, the 6-8-10 method, and use of the transit level, brick spacing and modular rule focusing on laying straight and plumb brick to the line, bricking gables and building columns. Covers application techniques for setting up different types of masonry materials, marking off layout lines and erecting batter boards along with techniques employed in different types of weather and climates. Laboratory: 3.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 115 (3 credit hours)****Intermediate Masonry**

Builds on proficiency in competencies learned in MSY 105. Focuses on laying straight and plumb brick to the line with emphasis on bricking gables and building columns. Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** MSY 105 with a grade of C or higher or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 198 (3 credit hours)****Practicum I**

Provides supervised on-the-job work experience related to the students educational objectives. Students participating in the Practicum do not receive compensation. Practicum: 3.0 credits (90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**MSY 199 (3 credit hours)****Cooperative Education I**

Provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Co-op Education program receive compensation for their work. Co-Op: 3.0 credits (90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**MSY 205 (3 credit hours)****Advanced Masonry**

Provides experience in laying quoin corners, bricking in around electrical and plumbing units, and laying door and window brick sills. Provides opportunity for students to construct expansion joints, piers, pilasters and retaining and splitface block walls. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** [(MSY 105 and MSY 115 with a grade of "C" or higher] or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 215 (3 credit hours)****Masonry Lab**

Provides for practice and application of principles, theories and skills taught in MSY 105, MSY 115, MSY 205. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** [(MSY 105 and MSY 115 and MSY 205) with a grade of "C" or higher] or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 225 (3 credit hours)****Brick Construction**

Covers the application of laying brick to a line overhand, laying a rowlock course, and making weep holes. Emphasizes tying intersecting walls with masonry ties and construction cavity walls and planters. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** MSY 205 with a grade of "C" or higher or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 235 (3 credit hours)****Special Techniques in Brick Construction**

Provides practice in constructing a variety of walls including arches. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** MSY 205 with a grade of "C" or higher or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 245 (3 credit hours)****Anchors and Reinforcement**

Presents different types of reinforcement used in masonry units such as installing wall ties and reinforcing wire, tying intersecting walls with metal ties, installing masonry anchor bolts, setting and anchoring door and window frames, and setting steel lintels and bearing plates. Covers the installation of dovetail ties to concrete, setting preformed masonry lintels, and laying of paving brick in a herringbone pattern. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** MSY 105 with a grade of "C" or higher or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 251 (3 credit hours)****Concrete Finishing**

Focuses on theory and techniques inherent in the art of concrete finishing. Laboratory: 3.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory



**MSY 253 (3 credit hours)****Masonry Floors and Steps**

Provides students with the opportunity to lay paving brick, steps, and flagstone floors including laying different types of patterns. Laboratory: 3.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 255 (3 credit hours)****Glass Blocks and Tile**

Provides students with the opportunity to lay structural clay tile, glazed tile, glass block, and set coping tile. Laboratory: 3.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 257 (3 credit hours)****Stone**

Includes identifying the types of stone and the different types of bonds used in stone masonry. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** MSY 105 with a grade of "C" or higher or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 275 (3 credit hours)****Fireplace Construction**

Presents different types and styles of indoor and outdoor fireplaces, and the principles of layout, drafting and drawing a fireplace. Includes finishing dimensions of fireplace opening, firebox layout, setting the flue lining, and applying a chimney cap. Laboratory: 3.0 credits (90 contact hours).

**Pre-requisite:** MSY 205 with a grade of C or higher or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 291 (1-3 credit hours)****Masonry Applications**

Provides students with additional opportunity to refine skills. Lab: 1.0 - 3.0 credits (45-135 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSY 298 (3 credit hours)****Practicum II**

Provides additional supervised on-the-job work experience related to the student's educational objectives. Students participating in the Practicum do not receive compensation. Practicum: 3.0 credits (90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**MSY 299 (3 credit hours)****Cooperative Education II**

Provides additional supervised on-the-job work experience related to the student's educational objectives. Students participating in the Co-op Education program receive compensation for their work. Co-op: 3.0 credits (90 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Massage Therapy (MSG)

**MSG 100 (4 credit hours)****Musculoskeletal Anatomy & Physiology I**

Provides extensive knowledge of the essential sciences with a focus on the musculoskeletal system that includes terminology, muscle tissue, basic biomechanics, and pathology. Lecture: 4 credits (60 contact hours).  
**Co-requisite:** MSG 125 or MSG 126 and 127.

**Pre- or co-requisite:** AHS 115.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 110 (4 credit hours)****Musculoskeletal Anatomy and Physiology II**

Provides a deeper understanding of body functions and effects of massage. Acquire skills for locating/palpating structures of the musculoskeletal system. Identifies muscle origins, insertions, innervations, and actions. Describes muscular interactions and biomechanics at major joint articulations of the upper and lower extremities. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** MSG 100 and MSG 125 or MSG 126 and 127.

**Co-requisite:** MSG 135 or MSG 136 and 137.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 117 (4 credit hours)****Musculoskeletal Anatomy & Physiology I**

Introduces the skeletal system and major joint articulations. Integrates the skeletal system with the muscular system, beginning with basic terminology and advancing to the fundamental connection with muscle and neuromuscular tissue. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** AHS 115 or CLA 131 or MIT 103.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 119 (4 credit hours)****Musculoskeletal Anatomy & Physiology II**

Details muscular interactions at major joint articulations including biomechanical concepts. Expands students' abilities to locate and affect muscles, joints, and innervations of the upper and lower extremities. 0 credits (90 contact hours).

**Pre-requisite:** MSG 119 Lecture: 4.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 125 (3 credit hours)****Medical Massage Techniques I with Lab**

Discusses the history and benefits of massage therapy. Applies the knowledge of environmental considerations and equipment necessary to provide treatment, hygiene and safety, and legal requirements of therapeutic massage. Provides students with beginning hands-on training by mastering the fundamental skills of positioning and draping while demonstrating self-care and proper body mechanics. Analysis of the theory and technique of relaxation massage and seated massage routine (chair massage) will be covered. Lecture: 1 credit (15 contact hours). Lab: 2 credits (60 contact hours).

**Pre- or co-requisite:** MSG 100.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MSG 126 (1 credit hours)****Medical Massage Techniques I**

Discusses the history and benefits of massage therapy. Applies the knowledge of environmental considerations and equipment necessary to provide treatment, hygiene and safety, and legal requirements of therapeutic massage. Acquire fundamental skills of positioning and draping, self-care, and proper body mechanics. Introduces the theory and technique of relaxation massage and seated massage routine (chair massage). Lecture: 1 credit (15 contact hours).

**Co-requisite:** MSG 127.

**Pre- or co-requisite:** MSG 100.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 127 (2 credit hours)****Medical Massage Lab I**

Applies the knowledge of environmental considerations and equipment necessary to provide treatment, hygiene and safety, and legal requirements of therapeutic massage. Demonstrates hands-on training by mastering the fundamental skills of positioning and draping while demonstrating self-care and proper body mechanics. Performs techniques of relaxation massage and performs the seated massage routine (chair massage). Laboratory: 2 credits (90 contact hours).

**Co-requisite:** MSG 126.

**Pre- or co-requisite:** MSG 100.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSG 135 (3 credit hours)****Medical Massage Techniques II with Lab**

Provides an opportunity to improve skills in assessment, medical terminology, record keeping, documentation, and pre-employment fundamentals. Expands knowledge of massage techniques to include myofascial and deep tissue. Provides specific palpation techniques to include major joint articulations, bony landmarks, and muscles origin insertion and actions. Lecture: 1 credit (15 contact); Lab: 2 credits (60 contact).

**Co-requisite:** MSG 110.

**Pre- or co-requisite:** MSG 100, MSG 110, MSG 125 or MSG 126 and MSG 127.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MSG 136 (1 credit hours)****Medical Massage Techniques II**

Provides extensive knowledge on assessment techniques, medical terminology, record keeping, and documentation necessary to provide wellness and healthcare massage. Expands knowledge of massage techniques to include myofascial and deep tissue. Lecture: 1 credit (15 contact hours).

**Co-requisite:** MSG 137.

**Pre- or co-requisite:** MSG 100, MSG 125 or MSG 126 and MSG 127.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 137 (2 credit hours)****Medical Massage Lab II**

Applies the knowledge of environmental considerations and equipment necessary to provide treatment, hygiene and safety, and legal requirements of therapeutic massage. Provides hands-on training by mastering the fundamental skills of positioning and draping while demonstrating self-care and proper body mechanics. Performs techniques of relaxation massage and performs the seated massage routine (chair massage). Laboratory: 2 credits (90 contact hours).

**Co-requisite:** MSG 126.

**Pre- or co-requisite:** MSG 100.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSG 205 (3 credit hours)****Advanced Clinical Massage I**

Prepares the student in the knowledge and skills of advanced massage techniques and integrating them in a medical atmosphere. Lecture: 1.0 credit (15 contact hours). Laboratory: 2.0 credits (60 contact hours).

**Co-requisite:** MSG110.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MSG 210 (3 credit hours)****Advanced Clinical Massage II**

Prepares students to integrate their massage practice into a clinical setting of rehabilitation of orthopedic conditions and injuries. Includes patient assessment, advanced orthopedics, and rehabilitative and preventative massage techniques. Lecture: 1.0 credit (15 contact hours). Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** MSG205.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MSG 215 (2 credit hours)****Massage Therapy Student Clinic**

Applies principles and techniques by providing students with experience through a student massage clinic. Lab: 2.0 credits (90 contacts hours).

**Co-requisite:** MSG 210.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MSG 220 (3 credit hours)****Massage Therapy Pathology**

Discusses common pathologies encountered in the field of massage therapy. Reviews pathologies directly linked to the biological systems of the body. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MSG 125 or MSG 126 and MSG 127; and MSG 135 or MSG 136 and MSG 137.

**Pre- or co-requisite:** MSG 100 and MSG 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 232 (3 credit hours)****Advanced Clinical Massage I**

Prepares the student to integrate the knowledge and skills of advanced massage techniques into a clinical setting. Lecture/Lab: 3.0 credits (105 contact hours).

**Pre-requisite:** MSG 134.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 234 (3 credit hours)****Advanced Clinical Massage II**

Prepares students to integrate their massage practice into a clinical setting, including the rehabilitation of orthopedic conditions and injuries. Expands the students' involvement in patient assessment, advanced orthopedics, and the use of rehabilitative and preventative massage techniques. Lecture/Lab: 3.0 credits (105 contact hours).

**Pre- or co-requisite:** MSG 232.

**Attributes:** Technical

**Components:** LEC: Lecture

**MSG 286 (3 credit hours)****Massage Therapy Student Clinic**

Enhances the student's experiences in the operation of a Massage Therapy business by their active participation in all aspects of a student-run business, including marketing, managing schedules and resources, and performing Massage services. Lecture/Lab: 3.0 credits (135 contact hours).

**Pre-requisite:** MSG 134.

**Attributes:** Technical

**Components:** LEC: Lecture

## Mathematics (MA)

**MA 111U (3 credit hours)****Contemporary Mathematics**

An introduction to concepts and applications of mathematics, with examples drawn from such areas as voting methods, apportionment, consumer finance, graph theory, tilings, polyhedra, number theory and game theory. This course is not available for credit to persons who have received credit in any mathematics course of a higher number with the exceptions of MA 112, 123, 162, 201 and 202. This course does not serve as a Pre-requisite for any calculus course. Credit not available on that basis of special examination. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Two years of high school algebra and a Math ACT score of 19 or above, or MA 108, or math placement test.

**Attributes:** QR - Quantitative Reasoning, Credit not permitted via STEP exam, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**MA 113U (4 credit hours)****Calculus I**

A course in one-variable calculus, including topics from analytic geometry. Derivatives and integrals of elementary functions (including the trigonometric functions) with applications. Lecture, three hours; recitation, two hours per week. Students who enroll in MA 113 based on their test scores should have completed a year of pre-calculus study in high school that includes the study of the trigonometric functions. Note: Math placement test recommended. Lecture: 3.0 credits (45 contact hours). Discussion: 1.0 credit (30 contact hours).

**Pre-requisite:** Math ACT of 27 or above, or math SAT of 620 or above, or a grade of C or better in MA 109 (UK) and MA 112 (UK), or a grade of C or better in MA 110 (UK), or consent of the department.

**Attributes:** QR - Quantitative Reasoning, Credit not permitted via STEP exam, University Course (University of Kentucky)

**Components:** DIS: Discussion, LEC: Lecture

**University Course:** University of Kentucky

**MA 162U (3 credit hours)****Finite Mathematics and Its Applications**

Finite mathematics with applications to business, biology, and the social sciences. Linear functions and inequalities, matrix algebra, linear programming, probability. Emphasis on setting up mathematical models from stated problems. Lecture 3.0 credits (45 contact hours).

**Pre-requisite:** MA 109 (UK) or equivalent.

**Attributes:** QR - Quantitative Reasoning, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**MA 213U (4 credit hours)****Calculus III**

MA 213 is a course in multivariate calculus. Topics include three dimensional vectors calculus, partial derivatives, double and triple integrals, sequences, and infinite series. Lecture, 3 hours; recitation, 2 hours per week. Lecture: 3.0 credits (45 contact hours). Discussion: 1.0 credit (30 contact hours).

**Pre-requisite:** A grade of C or better in MA 114 (UK) or equivalent.

**Attributes:** QR - Quantitative Reasoning, University Course (University of Kentucky)

**Components:** DIS: Discussion, LEC: Lecture

**University Course:** University of Kentucky

**MA 214U (3 credit hours)****Calculus IV**

MA 214 is a course in ordinary differential equations. Emphasis is on first and second order equations and applications. The course includes series solutions of second order equations and Laplace transform methods. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MA 213 or equivalent.

**Attributes:** QR - Quantitative Reasoning, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## Mathematics (MAT)

**MAT 11 (3 credit hours)****Transitional Algebra**

Provides individualized, accelerated, mastery-level progression through entry-level college mathematics Pre-requisite competencies as defined by KY Council of Postsecondary Education. Note: A passing grade in this course does not necessarily indicate that all prerequisites for all entry-level college mathematics courses have been met. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** KCTCS Placement Exam.

**Attributes:** Remedial - Mathematics

**Components:** LEC: Lecture

**MAT 55 (3 credit hours)****Pre-Algebra**

Includes operations on integers, decimals and fractions. Introduces exponents, square roots, percents, ratios, proportions, prime factorization, basic geometry, algebraic expressions, basic linear equations, and applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** KCTCS placement examination.

**Attributes:** Remedial - Mathematics, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 61 (4 credit hours)****Foundations of College Algebra**

Prepares students to take College Algebra with College Algebra Workshop. Introduces operations on integers, decimals, and fractions; ratios, proportions, and percents; simplifying radicals and algebraic expressions; solving linear and quadratic equations; linear inequalities; solving formulas; factoring; slope and graphing lines. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** KCTCS Placement Policy.

**Attributes:** Remedial - Mathematics

**Components:** LEC: Lecture

**MAT 62 (3 credit hours)****Intro to Workplace Mathematics**

Prepares students for Business Mathematics, Applied Mathematics, and Technical Mathematics. Includes properties of algebra, using formulas, solving linear equations, percentages, ratios, proportions, plotting points, graphing lines, exponents, and measurement. Encourages applications of algebra and effective use of technology. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MAT 55 or equivalent as determined by KCTCS placement examination.

**Attributes:** Remedial - Mathematics

**Components:** LEC: Lecture

**MAT 65 (3 credit hours)****Basic Algebra**

Includes linear equations and inequalities, integer exponents, polynomials, factoring, equations of lines and their graphs, systems of linear equations, and applications. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MAT 55 or KCTCS placement examination.

**Attributes:** Remedial - Mathematics, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 71 (3 credit hours)****Foundations of Precalculus**

Includes linear and absolute value equations and inequalities, linear equations in two variables, polynomials and factoring, exponential and radical expressions, quadratic equations, and systems of two linear equations. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** KCTCS placement examination.

**Attributes:** Remedial - Mathematics

**Components:** LEC: Lecture

**MAT 75 (4 credit hours)****Mathematical Literacy**

Develops the mathematical thinking skills and understanding needed for non-math and non-science majors, in a one-semester course integrating numeracy, proportional reasoning, algebraic reasoning, and functions. Provides an alternate path to college-level math courses other than college algebra. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** MAT 55 or equivalent as determined by KCTCS placement examination.

**Attributes:** Remedial - Mathematics

**Components:** LEC: Lecture

**MAT 85 (3 credit hours)****Intermediate Algebra**

Includes rational expressions, radical expressions, rational exponents, graphing parabolas, inequalities, equations of lines, functions and applications, with emphasis on solving quadratic, rational, and radical equations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MAT 65 or MAT 75 or KCTCS placement examination.

**Attributes:** Remedial - Mathematics

**Components:** LEC: Lecture

**MAT 100 (2 credit hours)****College Algebra Workshop**

Provides parallel and supplemental review of algebra skills needed for success in college algebra for students with a Math ACT of 19-21. (Credit not available by special exam; withdrawal from MAT 100 requires withdrawal from MAT 150; can be offered pass/fail or letter grade basis.) Lecture: 2.0 credits (30 contact hours). NOTE: Effective Fall 2010 ACT 19.

**Pre-requisite:** Concurrent enrollment in MAT 150.

**Attributes:** Other, Course Also Offered in Modules, Supplemental Mathematics

**Components:** LEC: Lecture

**MAT 105 (3 credit hours)****Business Mathematics**

Covers basic mathematical concepts as applied to finance. Includes percentages, simple and compound interest, annuities, sinking funds, depreciation, and consumer debt, including installment buying, credit cards, and mortgages. MAT 61, MAT 62, MAT 65, MAT 71, MAT 75, or MAT 85, OR 2. Completion of MAT 55 and concurrent enrollment in MAT 105S, OR 3. KCTCS placement policy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** 1.

**Attributes:** Quantitative Reasoning AAS

**Components:** LEC: Lecture

**MAT 105S (1-2 credit hours)****Corequisite Remediation for Business Mathematics**

Provides supplementary instruction for students who do not meet college readiness standards for MAT 105. Covers content necessary for student success in MAT 105. Lecture: 1-2 credits (15-30 contact hours).

**Co-requisite:** MAT 105.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 110 (3 credit hours)****Applied Mathematics**

Includes the concepts of ratio and proportion, units and conversions, linear equations in two variables, inequalities, graphing and writing equation of a line, percents, interest, descriptive statistics, and logical symbolism. Emphasizes applications in the various technologies. MAT 61, MAT 62, MAT 65, MAT 71, MAT 75, or MAT 85, OR 2. Completion of MAT 55 and concurrent enrollment in MAT 110S, OR 3. KCTCS placement policy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** 1.

**Attributes:** Quantitative Reasoning AAS, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 110S (1-2 credit hours)****Corequisite Remediation for Applied Mathematics**

Provides supplementary instruction for students who do not meet college readiness standards in MAT 110. Covers content necessary for student success in MAT 110. Lecture: 1-2 credits (15-30 contact hours).

**Co-requisite:** MAT 110.

**Attributes:** Other

**Components:** LEC: Lecture



**MAT 116 (3 credit hours)****Technical Mathematics**

Includes some mathematical concepts from algebra, geometry, and trigonometry and applications relevant to these topics. Includes unit conversions, variation, measurement of geometric figures, vectors, and solving right and oblique triangles using trigonometry. Emphasizes applications in the various technologies. MAT 61, MAT 62, MAT 65, MAT 71, MAT 75, or MAT 85, OR 2. Completion of MAT 55 and concurrent enrollment in MAT 116S, OR 3. KCTCS placement policy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** 1.

**Attributes:** Quantitative Reasoning AAS, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 116S (1-2 credit hours)****Corequisite Remediation for Technical Mathematics**

Provides supplementary instruction for students who do not meet college readiness standards for MAT 116. Covers content necessary for student success in MAT 116. Lecture: 1-2 credit hours (15-30 contact hours).

**Co-requisite:** MAT 116.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 126 (3 credit hours)****Technical Algebra and Trigonometry**

Examines mathematical concepts from algebra and trigonometry. Includes vectors, phasor algebra, variation, trigonometric functions, coordinate systems, system of linear equations, quadratic, rational, exponential and logarithmic equations. MAT 61, MAT 65, MAT 71, MAT 75, or MAT 85, OR 2. Completion of MAT 55 and concurrent enrollment in MAT 126S, OR 3. KCTCS placement policy. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** 1.

**Attributes:** Quantitative Reasoning AAS

**Components:** LEC: Lecture

**MAT 126S (1-2 credit hours)****Corequisite Remediation for Technical Algebra and Trigonometry**

Provides supplementary instruction for students who do not meet college readiness standards in MAT 126. Covers content necessary for student success in MAT 126. Lecture: 1-2 credit hours (15-30 contact hours).

**Co-requisite:** MAT 126.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 141 (3 credit hours)****Liberal Arts Mathematics**

Serves as a course in quantitative reasoning and problem solving intended for liberal arts majors. Includes voting methods, apportionment, interest and investments, probability, statistics, and geometry. (Students may not receive credit for both this course and MAT 146.). Lecture: 3 credit hours (45 contact hours).

**Pre- or co-requisite:** College Readiness or concurrent enrollment in MAT 141-S or MAT 61 or MAT 65 or MAT 71 or MAT 75.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 141S (1 credit hours)****Corequisite Remediation for Liberal Arts Mathematics**

Provides supplementary instruction for students who do not meet college readiness standards for MAT 141. Covers content necessary for success in MAT 141. Lecture: 1 credit hour (15 contact hours).

**Co-requisite:** MAT 141.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 146 (3 credit hours)****Contemporary College Mathematics**

Serves as a course in quantitative reasoning and problem solving intended for non-science majors. Includes voting methods, finance, population growth, and at least two additional topics chosen from: apportionment, geometry, logic, probability and statistics, graph theory, number theory, game theory, and set theory. Math ACT score of 19 or above, OR 2. Successful completion of MAT 61, MAT 65, MAT 71, MAT 75, MAT 85, MAT 126, or equivalent, OR 3. KCTCS placement policy including concurrent enrollment in MAT 146S as appropriate. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** 1.

**Attributes:** QR - Quantitative Reasoning, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 146S (1-2 credit hours)****Corequisite Remediation for Contemporary College Mathematics**

Provides supplementary instruction for students who do not meet college readiness standards for MAT 146. Covers content necessary for success in MAT 146. Lecture: 1-2 credit hours (15-30 contact hours).

**Co-requisite:** MAT 146.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 150 (3 credit hours)****College Algebra**

Includes selected topics in algebra and analytic geometry. Develops manipulative skills and concepts required for further study in mathematics. Includes linear, quadratic, polynomial, rational, exponential, logarithmic and piecewise functions; systems of equations; and an introduction to analytic geometry. (Students may not receive credit for both MAT150 and any other College Algebra or Pre-calculus course. Credit not available on the basis of special exam.) Math ACT score of 22 or above; 2. Math ACT score of 19 -21 with concurrent MAT 100 workshop; 3. Successful completion of MAT 61, MAT 65, or MAT 75 with concurrent MAT 100 workshop; 4. Successful completion of MAT 71, MAT 85, MAT 126, or equivalent; or 5. KCTCS placement exam recommendation. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** 1.

**Attributes:** QR - Quantitative Reasoning, Credit not permitted via STEP exam, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 151 (3 credit hours)****Introduction to Applied Statistics**

Serves as an entry-level introduction to applied statistics useful for a variety of fields. Covers statistical terminology and the appropriate use of software for the calculation of descriptive statistics, basic probability, correlation and linear regression. Emphasizes understanding the uses and misuses of statistics in the real world. (Same as STA 151.) (Students may not receive credit for both this course and any of the following: STA 151, STA 200, STA 210, STA 215.) Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** College Readiness in Mathematics.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture



**MAT 151S (1 credit hours)****Corequisite Remediation for Introduction to Applied Statistics**

Provides supplementary instruction for students who do not meet college readiness standards for STA 151 or MAT 151. Covers content necessary for success in STA 151 or MAT 151 as needed. Lecture: 1 credit (15 contact hours).

**Attributes:** Other, Supplemental Mathematics

**Components:** LEC: Lecture

**MAT 154 (2 credit hours)****Trigonometry**

Includes trigonometric functions, identities, multiple analytic formulas, laws of sines and cosines, graphs of trigonometric functions, and inverse trigonometric functions. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Completion of MAT 71 or MAT 150 or a college intermediate algebra course or two years of high school algebra.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 155 (3 credit hours)****Trigonometry**

Includes the trigonometric functions, identities, multiple analytic formulas, laws of sines and cosines, graphs of trigonometric functions in rectangular and polar coordinates, and solving trigonometric equations. Emphasizes applications in each topic. (Students may not receive credit for both MAT155 and any other trigonometry or pre-calculus course.) Lecture: 3 credits (45 contact hours). Math ACT score of 22 or above, 2. Math ACT score of 19-21 with concurrent MAT150, 3. Successful completion of Intermediate Algebra, MAT 71, MAT 126, MAT 150, or equivalent; or 4. Placement exam recommendation.

**Pre-requisite:** 1.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 159 (4 credit hours)****Analytic Geometry and Trigonometry**

Includes trigonometric functions, trigonometric identities, graphs of trigonometric functions, and inverse trigonometric functions, polynomial and rational functions, the Algebra of functions, exponential and logarithmic functions, and systems of equations. The course is not available for credit by special examination. The course is not available for credit to persons who have received credit for college algebra or trigonometry course. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** Two years of high school algebra and a Math ACT score of 19 or above, or MA 108R (UK) or math placement test.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 160 (5 credit hours)****Precalculus**

Prepares students to enroll in a calculus sequence. Includes trigonometric functions, exponentials and logarithms, graphs, polar coordinates, conic sections, and systems of nonlinear equations. Students may not receive credit for both MAT 160 and either College Algebra or Trigonometry. Credit is not available by special examination. Lecture: 5 credits (75 contact hours). Math ACT score of 23 or above, 2. Placement exam recommendation, or 3. Consent of instructor.

**Pre-requisite:** 1.

**Attributes:** QR - Quantitative Reasoning, Credit not permitted via STEP exam

**Components:** LEC: Lecture

**MAT 161 (5 credit hours)****Statistics and Algebra**

Serves as the entry-level mathematics class for students in business and related fields. Provides a survey of algebra and statistics topics necessary to prepare students for Brief Calculus and Applied Statistics. Develops fluency in the manipulation of polynomial, rational, radical, exponential, and logarithmic functions in order to solve equations, inequalities, and application problems. Familiarizes students with the graphs of the aforementioned functions. Includes nonlinear systems of equations. Covers statistical terminology and the appropriate use of software for the calculation of descriptive statistics, basic probability, correlation and linear regression. (Students may not receive credit for both this course and any of the following: STA 151, MAT 151, MAT 150.) ACT Math of 22 or MAT 71 or MAT 85 or 2. KCTCS placement policy and concurrent enrollment in MAT 161-S or 3. completion of MAT 61 and concurrent enrollment in MAT 161-S. Lecture: 5 credit hours (75 contact hours).

**Pre-requisite:** 1.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 161S (2 credit hours)****Corequisite remediation for Statistics and Algebra**

Provides supplementary instruction for students who do not meet college readiness standards for MAT 161. Covers content necessary for success in MAT 161 as needed. Lecture: 2 credit hours (30 contact hours).

**Co-requisite:** MAT 161.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 165 (3 credit hours)****Finite Mathematics and its Applications**

Examines finite mathematics with applications to business, biology and the social sciences including linear functions and inequalities, matrix algebra, linear programming, probability with emphasis on setting up mathematical models from stated problems. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 150 or MAT 161 or equivalent.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 170 (3 credit hours)****Brief Calculus with Applications**

Provides an introduction to differential and integral calculus with applications in biological sciences, social sciences, physical sciences, or business with an analysis of algebraic, exponential, and logarithmic functions. (Students may not receive credit for both MAT 170 and MAT 175.) Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Successful completion of MAT 150 or Math ACT 27 or above.

**Attributes:** QR - Quantitative Reasoning, Course Also Offered in Modules

**Components:** LEC: Lecture

**MAT 171 (5 credit hours)****Precalculus**

Serves as the entry-level mathematics class for students in STEM fields. Prepares students for success in Calculus I. Develops fluency in the manipulation of polynomial, rational, radical, exponential, logarithmic, and trigonometric functions in order to solve equations, inequalities, and application problems. Familiarizes students with the graphs of the aforementioned functions. Includes linear and nonlinear systems of equations. Students may not receive credit for both MAT 171 and any other College Algebra, Trigonometry, or Precalculus course. Credit not available on the basis of special examination. Lecture: 5 credit hours (75 contact hours).

**Pre-requisite:** ACT Mathematics score of 23 or equivalent, or MAT 71 or MAT 85.

**Attributes:** QR - Quantitative Reasoning, Other

**Components:** LEC: Lecture

**MAT 174 (4 credit hours)****Calculus I**

Includes topics from analytic geometry, derivatives and integrals of elementary functions, trigonometric functions, exponential functions, and logarithmic functions, and their applications. A course in one variable calculus. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** MATH ACT score of 27 or above, or MAT 150 and MAT 154, or MAT 159, or consent of instructor.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 175 (5 credit hours)****Calculus I**

Examines one-variable calculus including limits, differentiation and integration of algebraic, trigonometric, exponential, logarithmic, hyperbolic, and inverse trigonometric functions with applications. Lecture: 5 credits (75 contact hours). College Algebra and Trigonometry, or equivalent, with grades of "C" or higher, 2. Math ACT 27 or above, 3. Placement exam recommendation, or 4. Consent of instructor.

**Pre-requisite:** 1.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 184 (4 credit hours)****Calculus II**

Stresses techniques of integration and infinite series. Includes transcendental functions and polar coordinates. A continuation of MAT 174. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** MAT 174 with a grade of C or above.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 185 (5 credit hours)****Calculus II**

Includes applications of integration, advanced integration techniques, sequences and infinite series, and parametric and polar equations. Lecture: 5.0 credits (75 contact hours).

**Pre-requisite:** Calculus I, or equivalent, with grade of "C" or higher, or consent of the instructor.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 205 (3 credit hours)****Mathematics For Elementary and Middle School Teachers I**

Introduces problem solving, number and numeration systems, whole numbers, integers, rational and irrational numbers, and elementary number theory. Requires demonstration of basic skills in mathematics to receive credit in this course. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 141 or MAT 146 or MAT 150 or MAT 151 or MAT 161 or equivalent, with a minimum grade of "C".

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 206 (3 credit hours)****Mathematics For Elementary and Middle School Teachers II**

Introduces probability and statistics; geometric concepts including congruence and similarity; and measurement. Required demonstration of basic skills in mathematics to receive credit in this course. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 141 or MAT 146 or MAT 150 or MAT 151 or MAT 161 or equivalent with a minimum grade of "C".

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 213 (4 credit hours)****Calculus III with Linear Algebra**

Examines multivariate calculus. Includes partial differentiation, multiple integration, vector calculus, and selected topics from linear algebra including matrices, linear independence of vectors, linear transformations, characteristic values and vectors. Offered primarily for STEM majors. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** Successful completion of Calculus II.

**Attributes:** Other

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**MAT 214 (3 credit hours)****Calculus IV**

Focuses primarily on first and second order equations. Includes matrix solutions of systems of linear differential equations, both homogeneous and nonhomogeneous. Also includes series solutions, Bessel equations, Laplace transforms, and operator methods. Primarily for STEM majors. Lecture: 3.0 credits (75 contact hours).

**Pre-requisite:** Successful completion of Calculus III with Linear Algebra.

**Attributes:** Other

**Components:** LEC: Lecture

**MAT 261 (3 credit hours)****Introduction to Number Theory**

Investigates topics from classical number theory, including discussions of mathematical induction, prime numbers, division algorithms, congruences, and quadratic reciprocity. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 275 (4 credit hours)****Calculus III**

Examines multivariate calculus including parametric equations; rectangular, cylindrical, and spherical coordinate systems; vectors and vector-valued functions; limits and derivatives of functions of several variables; multiple integration; and line and surface integrals. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** MAT185 or equivalent, or Consent of instructor.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**MAT 285 (3 credit hours)****Differential Equations**

Examines ordinary differential equations emphasizing first and second order equations and applications. Includes series solutions of second order equations and Laplace transform methods. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT275 or Consent of instructor.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

## Mechanical Engineering (ME)

**ME 205 (3 credit hours)****Introduction to Computer Graphics**

Combines freehand sketching techniques, both orthographic and pictorial, and the use of a solid modeling program to describe and define mechanical objects using current industrial standards. An introduction to basic dimensioning and tolerancing techniques is included. Lecture: 2.0 credit hours, Laboratory: 4.0 credit hours per week.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ME 220 (3 credit hours)****Engineering Thermodynamics I**

Fundamental principles of thermodynamics. Pre-requisite or concurrent: MA 214. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PHY 231.

**Attributes:** Technical

**Components:** LEC: Lecture

## Mechatronic Systems (MES)

**MES 110 (4 credit hours)****Mechatronic Systems Electrical Components**

Introduces the systems approach to the operation of electrical components and the relationship to voltage, current, resistance, and power in industrial systems. Provides an overview of alternating and direct current fundamentals. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (COMPASS Scores of Pre- Alg-31; Reading-70; English-39) or (ACT Score of 19 in Math and Reading and 18 in English).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MES 120 (4 credit hours)****Mechatronic Systems Mechanical Components**

Introduces the systems approach to the operation of mechanical components and the relationship of their application in industrial systems. Provides an overview of rotating machinery fundamentals. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (COMPASS Scores of Pre- Alg-31; Reading-70; English-39) or (ACT Score of 19 in Math and Reading and 18 in English).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MES 130 (4 credit hours)****Mechatronic Systems Hydraulic / Pneumatic Components**

Introduces the systems approach to the operation of hydraulic/ pneumatic components and the relationship of their application in industrial systems. Provides an overview of digital fundamentals. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (COMPASS Scores of Pre- Alg-31; Reading-70; English-39) or (ACT Score of 19 in Math and Reading and 18 in English) Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MES 150 (4 credit hours)****Mechatronic Systems Programmable Logic Controllers**

Introduces the systems approach to the operation of Programmable Logic Control components and the relationship of their application in industrial systems. Provides an overview of Programming fundamentals. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (COMPASS Scores of Pre-Alg-31; Reading-70; English-39) or (ACT Score of 19 in Math and Reading and 18 in English) Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Medicaid Nurse Aide (MNA)

**MNA 100 (3 credit hours)****Medicaid Nurse Aide**

Provides knowledge and skills for nurse aides to assume the role and responsibility required in a long term care setting. Focuses on communication, infection control, safety, resident/patient rights, and basic nursing skills. Note: Faculty and clinical sites must comply with applicable Federal and Kentucky laws and regulations including but not limited to 42 USC 1396r and 907 KAR 1:450. Lecture/Lab: 3.0 credits (75 contact hours). (45:1 ratio).

**Attributes:** Technical

**Components:** LEC: Lecture

## Medical Assisting (MAI)

**MAI 105 (3 credit hours)****Introduction to Medical Assisting**

Introduces rights, roles, responsibilities and functions of the medical assistant including personal and professional awareness, communication, interpersonal relationships, psychological concepts, ethics and legalities Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Acceptance into the Medical Assisting program or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LEC: Lecture

**MAI 120 (3 credit hours)****Medical Assisting Laboratory Techniques I**

Introduces theory and practical application in the physician's office laboratory including anatomy and physiology, patient preparation, specimen collection and transport, processing and testing, blood collection and prevention of disease transmission. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Acceptance into the Medical Assisting Program or consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 125 (2 credit hours)****Medical Assisting Laboratory Techniques I**

Introduces theory and practical application in the physician's office laboratory including anatomy and physiology, patient preparation, specimen collection and transport, processing and testing, blood collection and prevention of disease transmission. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Admission in Medical Assisting Program or Program Coordinator Permission.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 140 (4 credit hours)****Medical Assisting Clinical Procedures I**

Introduces clinical skills and techniques used in the physician's office for patient examination, diagnosis and treatment. Introduces concepts related to electronic health records (EHR). Presents principles and practical applications related to medical asepsis, infection control, vital signs, routine and specialty patient examinations, diagnostic testing, and treatments with an emphasis on OSHA regulations. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 150 (3 credit hours)****Medical Assisting Administrative Procedures I**

Provides knowledge of the duties required in an office with emphasis placed on a medical office environment. Course content includes communication with patients and co-workers, completion of medical office forms, telephone techniques, filing office correspondence, appointment scheduling, processing medical records, and an introduction to medical office computer software. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LEC: Lecture

**MAI 155 (4 credit hours)****Administrative Procedures for the Medical Assistant**

Provides knowledge of the duties required in a medical office with emphasis placed on the ambulatory care environment. Presents procedures in effective communication with patients, physicians, and healthcare professionals. Focuses on completion of medical office forms, financial and insurance claim forms, filing office correspondence, processing medical records, and billing methods. Introduces fundamentals of insurance processing and coding for the medical office, with focus on proper procedures for accurate coding systems using diagnostic and procedural coding systems. Applies application skills with medical office software, including practice management and electronic medical records. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Admission in Medical Assisting Program or Program Coordinator Permission.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 162 (6 credit hours)****Medical Assisting Laboratory & Clinical Procedures I**

Introduces clinical skills and techniques used in the physician's office including anatomy and physiology, patient preparation and examination, diagnosis and treatment, specimen collection and transport. Presents principles and practical applications related to medical asepsis and infection control, vital signs, diagnostic testing, and treatments with an emphasis on OSHA regulations. Introduces theory and practical application of blood collection, processing, and transport as it relates to the physician office laboratory. Pre-Requisite: Admission in Medical Assisting Program or Program Coordinator Permission. Lecture: 4 credits (60 contact hours). Laboratory: 2 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 170 (2 credit hours)****Dosage Calculations**

Provides a review of basic mathematics skills related to dosage calculations, a thorough knowledge of the systems of measurement and conversion, and application skills to perform dosage calculations. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LEC: Lecture

**MAI 200 (3 credit hours)****Pathophysiology for the Medical Assistant**

Provides instruction related to common acquired diseases, congenital conditions, injuries, illnesses, and trauma situations as related to the major body systems. All Pre-requisites must be achieved with a grade of "C" or greater. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (BIO 135 or BIO 137 and BIO 139) and (CLA 131 or AHS 115 or AHS 120 or MIT 103) or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LEC: Lecture

**MAI 220 (3 credit hours)****Medical Assisting Laboratory Techniques II**

Relates to laboratory procedures waived complexity testing performed in the physician's office laboratory. Stresses CLIA and OSHA regulations. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** MAI 120 with a grade of "C" or greater or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 230 (3 credit hours)****Medical Insurance**

Introduces fundamentals of insurance processing and coding for the medical office, with focus on proper procedures for accurate coding systems using the ICD, CPT and HCPCS coding system. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director.

**Attributes:** Technical

**Components:** LEC: Lecture



**MAI 240 (4 credit hours)****Medical Assisting Clinical Procedures II**

Continues instruction and application techniques for specialty examination, diagnostic testing and treatment modalities. Emphasizes fundamentals and practical applications of minor office surgical procedures. Lecture: 3 credits (45 contact hours). Lab: 1 credit (45 contact hours).

**Pre-requisite:** MAI 140 with a grade of "C" or greater OR Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 250 (3 credit hours)****Medical Assisting Administrative Procedures II**

Focuses on compiling and completing financial and insurance claim forms. Includes banking concepts, accounting systems frequently used in the medical office, payment procedures, insurance plans and claims, paper and electronic billing methods, and professional fees. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** MAI 150 with a grade of "C" or greater OR Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 262 (6 credit hours)****Medical Assisting Laboratory & Clinical Procedures II**

Provides instruction and application techniques for specialty examination, diagnostic testing, and treatment modalities. Emphasizes fundamentals and practical applications of minor office surgical procedures. Prepares students for laboratory procedures and waived complexity testing performed in the physician's office laboratory. Stresses CLIA and OSHA regulations. Lecture: 4 credits (60 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** MAI 162 with a "C" or higher.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 265 (4 credit hours)****Applied Pharmacology for the Medical Assistant**

Provides a review of basic mathematic skills related to dosage calculations, a thorough knowledge of the systems of measurement and conversion, and application skills to perform dosage calculations. Examines pharmacology with concentration on prescriptions, drug nomenclature, classification of drugs, patient education, and medication preparation and administration. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** Acceptance to the Medical Assisting Program and (BIO 135 or BIO 137 and BIO 139) and (AHS 115 or CLA 131 or MIT 103) with a grade of "C" or better, or Consent of Medical Assisting Program Coordinator/Director.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 270 (3 credit hours)****Pharmacology for the Medical Assistant**

Examines pharmacology with concentration on prescriptions, drug nomenclature, classification of drugs, patient education, medication preparation and administration. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** (MAI 170 and (BIO 135 or BIO 137 and BIO 139) and (AHS 115 or AHS 120 or CLA 131 or MIT 103) with a grade of "C" or better) or Consent of Medical Assisting Program Coordinator/Director.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MAI 281 (1 credit hours)****Medical Assisting Practicum**

Provides introductory practical experience (unpaid) through observation and work assignments in a healthcare setting. Clinical: 1 credit (60 contact hours).

**Pre-requisite:** Consent of Medical Assisting Program Coordinator/Director.

**Attributes:** Technical

**Components:** CLN: Clinical

**MAI 284 (2-3 credit hours)****Medical Assisting Externship**

Allows the student to apply knowledge, perform administrative and clinical procedures, and develop professional attitudes for interacting with other professionals and consumers in the health care field by means of externship assignments (unpaid). Practicum: 2.0 - 3.0 credits (120-180 contact hours).

**Pre-requisite:** MAI 281 and Consent of Medical Assisting Program Coordinator/Director.

**Attributes:** Technical

**Components:** PRA: Practicum

**MAI 289 (1-2 credit hours)****Medical Assisting Assessment Preparation**

Prepares student to assume the role of the Medical Assistant by preparing them for successful credentialing while providing the opportunity to apply critical thinking, cognitive skills and performance competencies. Laboratory: 1.0-2.0 credit hours (30-60 contact hours).

**Pre-requisite:** Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MAI 299 (1-4 credit hours)****Selected Topics: Medical Assisting: (Topic)**

Various medical assisting topics, issues and trends will be addressed.

Topics may vary from semester to semester at the discretion of the instructors; course may be repeated with different topics to a maximum of six credit hours. Lecture: varies; Laboratory: varies.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Medical Billing Specialist (MBS)

**MBS 100 (2 credit hours)****Introduction to the Health Care Field**

This course is designed to acquaint/teach the student with legal issues and ethical concerns as they apply to the patients' medical records.

\*Student must maintain a 2.0 GPA in A & P to continue in the program

**Attributes:** Technical

**Components:** LEC: Lecture



**MBS 110 (6 credit hours)****Medical Insurance and Claims Processing**

Provides an in-depth knowledge of the various insurance programs, including rules, regulations and guidelines, and follow-up for Medicare, Medicaid, Commercial Insurance, and managed care (HMO), and complete insurance forms manually for reimbursement. Lecture: 6 credits (90 contact hours).

**Pre-requisite:** ((AHS 109 or BIO 130 or 135 or (BIO 137 and BIO 139) and (AHS 115 or CLA 131 or OST 103) and Computer Literacy and MBS 100) with a grade of C or better) or consent.

**Co-requisite:** MBS 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**MBS 120 (8 credit hours)****Coding for Reimbursement**

Prepares the student to code for optimum reimbursement using the ICD, CPT, and HCPCS codes for patient diagnoses and procedures.

**Pre-requisite:** ((AHS 109 or BIO 130 or 135 or (BIO 137 and BIO 139) and (AHS 115 or CLA 131 or OST 103) and Computer Literacy and MBS 100) with a grade of C or better) or consent.

**Co-requisite:** MBS 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**MBS 199 (1-8 credit hours)****Internship**

Applies practical knowledge to the outpatient healthcare setting. The student will be assigned a healthcare preceptor at the affiliate site. \*This course may be taken for 1-8 credits.

**Pre-requisite:** (MBS 110 and MBS 120) or Consent

**Attributes:** Technical

**Components:** PCM: Practicum

# Medical Information Technology (MIT)

**MIT 103 (3 credit hours)****Medical Office Terminology**

Introduces students to medical terminology including familiar elements, body systems, operative procedures, pharmacology, and methods of researching medical information including, but not limited to, names and descriptions of diseases and drugs. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MIT 104 (3 credit hours)****Medical Insurance**

Introduces students to the basics of medical insurance including: insurance terminology, various coding systems, government programs, and general insurance procedures. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** MIT 103 or AHS 115 or CLA 131.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 106 (3 credit hours)****Introduction to Medical Transcription**

Provides experience in transcription of basic medical dictation: incorporating English usage, transcription skills, medical knowledge, and proofreading and editing skills while meeting progressively demanding accuracy and productivity standards. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Computer Literacy course and OST 110 and (ENG 101 or OST 108) and (AHS 115 or CLA 131 or MIT 103).

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 204 (3 credit hours)****Medical Coding**

Develops medical coding skills using government mandated coding systems as applied. Includes other reimbursement methods and medical insurance concepts. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** MIT 104, BIO 135 or Equivalent.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 205 (3 credit hours)****Advanced Medical Coding**

Applies advanced coding rules for various coding systems and applies the rules to code patient services for a variety of payment systems emphasizing payment fraud and/or abuse. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MIT 204 or MBS 120.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 206 (3 credit hours)****Medical Transcription**

Applies advanced concepts of medical transcription and provides advanced practice. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MIT 106 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 208 (3 credit hours)****Inpatient Coding**

Designed for students who have completed an entry-level coding course and are ready to move into more advanced hospital coding. Emphasizes inpatient coding using current government mandated coding systems. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MIT 204.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 212 (1 credit hours)****Medications**

Introduces the student to Pharmacology; the most commonly used drugs, their names, and classification; and drug reference books while stressing spelling. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** (MIT 103 or AHS 115 or CLA 131) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 217 (3 credit hours)****Medical Office Procedures**

Provides a working knowledge of the duties required in a medical office. Includes professional and career responsibilities, interpersonal communication, administrative responsibilities, and financial administration. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** OST 110 OR CIT 105 or OST 105 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 219 (3 credit hours)****Coding Exam Preparation**

Designed to prepare medical coding students to take a certifying exam to become a professional outpatient coder. Includes outpatient coding cases and review of medical terminology, basic anatomy, basic pathophysiology, reimbursement issues, and advanced coding guidelines for government mandated coding systems. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (MIT 204 and MIT 205) or MBS 120.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**MIT 224 (3 credit hours)****Medical Practice Management**

Introduces students to medical practice management from roles of staff members in healthcare to skills and responsibilities of the manager in relation to compliance and regulatory agencies. It identifies the requirements of managing the revenue cycle, compliance regulations, human resources, health information, and the general business processes. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** MIT 230, MIT 217, MIT 104.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 227 (3 credit hours)****Medical Office Software**

Provides a working knowledge of computer medical practice management software in a simulated medical office setting. Prepares medical practice and office professionals to efficiently use practice management software in managing the operational, patient and financial data in medical offices and hospital environment utilizing hands on computer applications. Covers medical practice software skills including appointment scheduling, patient registration, procedure posting, electronic payment posting, patient billing and collections, report generation and file maintenance. Enables students to process insurance claim forms and complete electronic billing cycle using current medical billing software. Focus on accuracy is emphasized. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MIT 104 & MIT 217.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 228 (3 credit hours)****Electronic Medical Records**

Provides a working knowledge of computerized medical records software used in a variety of healthcare facilities. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MIT 217.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 230 (3 credit hours)****Medical Information Management**

Identifies and applies rules and regulations of medical filing systems and procedures. Emphasizes management of both hard copy and magnetic media using alphabetic, numeric, chronologic, and color-coded filing systems. Concepts mastered for file retention and archiving. Discusses legal and ethical aspects of medical records. Pre-requisite Or Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** Computer Literacy Course.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 240 (3 credit hours)****Medical Interpreter-Lecture**

Prepares students who are bilingual to develop awareness, knowledge, and skills necessary for effective language interpretation in health care settings. Emphasizes the roles and responsibilities of a health care interpreter; application of knowledge of common medical conditions, treatments, and procedures in communication through verbal and written methods; insight in language and cultural nuances for specific communities; development of skills to work with the patient and the healthcare team. Lecture: 3 credits (45 contact hours)

**Pre- or co-requisite:** (ENG 101 AND MIT 103 AND (BIO 135 OR (BIO 137 AND BIO 139))) Or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 241 (1 credit hours)****Medical Interpreter-Laboratory**

Provides practical supervised medical interpreting experience in a clinical or similar setting. Applies strategies and skills to facilitate the success of patient-healthcare provider interaction. Reviews and evaluates patient-healthcare provider interactions for clarity, efficacy, and adherence to a code of ethics reflecting national standards. Laboratory: 1 credit (30 contact hours).

**Pre- or co-requisite:** MIT 240 OR Instructor Consent.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MIT 250 (3 credit hours)****Legal Issues in Medical Information Management**

Includes concepts and principles of law, legal principles, ethics, and issues that govern medical information management and patient health records & information. . Covers legal and ethical issues as related to legal documents, health data, legal concepts, security, privacy, and current trends in health legislation. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MIT 295 (3 credit hours)****Medical Information Technology Capstone**

Enhances the student's transition from class to work by providing unpaid learning activities related to the MIT field. Integrates work experience with academic instruction. Includes an internship, field experiences, and/or simulated work experiences in which the student applies previously or concurrently learned concepts to practical work situations within the MIT field. Lecture: 1.0 credit (15 contact hours). Practicum: 2.0 credits (120 credit hours).

**Pre-requisite:** Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture, PCM: Practicum

# Medical Laboratory Technology (MLT)

## MLT 101 (3 credit hours)

### Introduction to the Clinical Laboratory

Includes an orientation to the laboratory and management structure, professional organizations, professional ethics, communication, and record keeping. Covers medical terminology and abbreviations, quality assurance procedures, laboratory safety rules and procedures, specimen processing, laboratory automation, and basic immunology. Introduces the student to the various laboratory departments. Lecture/Lab: 3.0 credits (75 contact hours)

**Pre-requisite:** Admission into the MLT program or permission of the MLT Program Director or MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## MLT 112 (2 credit hours)

### Urinalysis

Focuses on methodology and clinical significance of urine chemical analysis, interferences with chemical analysis procedures, screening methods used in diagnostic determinations, collection and handling of specimens, and the characteristics and clinical significance of formed elements of the urine. Includes the physiological function of the kidneys and diseases which affect the urinary system. Pre-requisite Or If taken as a pre-requisite, a minimum grade of "C" Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** Admission into the MLT program or permission of the MLT program director/coordinator.

**Co-requisite:** MLT 101 or PHB 170.

**Attributes:** Technical

**Components:** LEC: Lecture

## MLT 115 (2 credit hours)

### Serology

Introduces basic immunological principles. Includes applications of serological testing for the diagnosis and monitoring of diseases and other antigenic responses. Lecture/Lab: 2.0 credits (37.50 contact hours).

**Pre-requisite:** Admission into the MLT program or permission of MLT program director/coordinator.

**Components:** LEC: Lecture

## MLT 205 (3 credit hours)

### Clinical Microbiology I

Introduces the application of microbiological principles to clinical laboratory practice. Includes safety and use of standard precautions, staining, selection and use of media, specimen processing, cultivation and identification of bacteria, and antimicrobial susceptibility testing. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** [(MLT 101 and MLT 119) or BIO 225 with a grade of "C" or greater]; admission into the MLT program; permission by MLT program director/coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## MLT 206 (2 credit hours)

### Clinical Microbiology II

Continues with the application of microbiological principles to clinical laboratory practice. Includes mycology, parasitology, virology, and mycobacteriology. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Admitted into the MLT program; permission of the MLT program director/coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## MLT 207 (2 credit hours)

### Introduction to Clinical Diagnostic Microbiology

Reviews the basic concepts of bacterial cell structure, physiology, nomenclature and classification. Emphasizes safety in the microbiology department of the laboratory. Introduces specimen processing as it relates to the microbiology department in the clinical laboratory. Covers the practical importance of identifying microorganisms through morphology on culture media, appearance on gram stain, and biochemical reactions. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** Admission into the MLT program OR permission of the MLT Program Director/MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

## MLT 208 (3 credit hours)

### Clinical Diagnostic Microbiology I

Discusses theoretical concepts, disease processes, identification schemas, diagnostic characteristics, biochemical reactions, susceptibility testing, and isolation techniques of gram positive and gram negative microorganisms associated with infections diagnosed in the clinical laboratory microbiology department. Lecture/Lab: 3.0 credits (75 contact hours).

**Pre-requisite:** MLT 207 with a grade of "C" or better OR permission of the MLT Program Director/MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

## MLT 209 (2 credit hours)

### Clinical Diagnostic Microbiology II

Exposes the student to a study of anaerobes, spore forming gram positive bacilli, virology, mycobacterium, mycoplasma, spirochetes, mycology and parasitology with focus on the clinical diseases and diagnostic procedures in the microbiology department of the clinical laboratory. Pre-requisite: MLT 208 with a grade of "C" or better OR permission of the MLT Program Director/MLT Clinical Coordinator Lecture/Lab: 2.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MLT 215 (4 credit hours)

### Hematology I

Covers hematopoiesis and classic methodologies of standard hematology procedures. Includes the principles of various automated hematology analyzers, histograms and scattergrams. Provides students with the opportunity to perform basic hematology and coagulation procedures, correlate laboratory data to aid in diagnosis, and describe methodology of procedures and their clinical significance. Includes mechanisms of coagulation, routine coagulation testing, disease states associated with coagulation abnormalities, platelet evaluation, fibrinolysis and anticoagulant therapy. Lecture/Lab: 4.0 credits (105 contact hours).

**Pre-requisite:** MLT 101 with a grade of "C" or greater OR admission into the MLT program OR permission by MLT program coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**MLT 216 (3 credit hours)****Hematology II**

Continues the study of hematology. Includes a study of anemias, leukemias, lymphomas, miscellaneous abnormal white blood cell disorders to assess hematologic changes and correlate laboratory data to diagnosis. Covers body fluids and other special hematologic procedures. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** MLT 215 with a grade of "C" or greater; permission by MLT program director/coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MLT 217 (3 credit hours)****Fundamentals of Hematology**

Presents classic methodologies related to standard hematology procedures. Includes collection and processing of proper specimens, performance of quality control, and analysis of fundamental hematological parameters to aid in diagnosis. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** Admission into the MLT program OR permission of the MLT Program Director/MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**MLT 218 (4 credit hours)****Clinical Hematology**

Continues the study of hematology. Includes hemostasis, anemias, leukemias, lymphomas, miscellaneous abnormal white blood cell disorders, body fluid analysis and other special hematological procedures. Lecture/Lab: 4.0 credits. (75 contact hours).

**Pre-requisite:** A grade of C or better in MLT 217 OR permission of the MLT Program Director/MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**MLT 225 (2 credit hours)****Immunohematology I**

Includes the principles of immunology in relation to blood banking, blood group systems, donor processing and screening, antibody screening, and blood components. Lecture: 1.0 credit(15 contact hours). Laboratory: 1.0 credit (45 contact hours).

**Pre-requisite:** MLT 101 with a grade of "C" or greater; admission into the MLT program; permission by MLT program director/coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MLT 226 (2 credit hours)****Immunohematology II**

Includes antibody screening and panel interpretation, compatibility testing, viral markers and related disease states, hemolytic disease, and HLA markers. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** MLT 225 or Permission by MLT Program Director/Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**MLT 227 (4 credit hours)****Immunohematology**

Covers principles and practices in blood banking, including topics such as blood group systems, blood components, antibody identification and compatibility testing. Lecture/Lab: 4 credits (105 contact hours).

**Pre- or co-requisite:** MLT 115 with a grade of "C" or greater and admission into the MLT program OR permission of the MLT Program Director/MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**MLT 233 (3 credit hours)****Clinical Chemistry I**

Provides a review of basic inorganic chemistry and organic chemistry principles and types of instrumentation commonly used in a medical laboratory. Covers carbohydrates, non-protein nitrogen compounds, proteins, lipids and enzymes as related to clinical diagnosis. Introduces quality control procedures, including statistical calculations for graph preparation and interpretation of gathered data. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** (MLT 101 with a grade of "C" or greater and admission into the MLT program) or MLT Program Coordinator/Director.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MLT 234 (2 credit hours)****Clinical Chemistry II**

Presents the physiology and testing of liver function, hormones, electrolytes and acid-base metabolism. Includes toxicology and therapeutic drug monitoring, tumor markers, and special chemistries. Pre-requisite Or If taken as a Pre-requisite, a minimum grade of C. Lecture: 1.0 credit(15 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** MLT 101 with a grade of "C" or greater; permission by MLT program director/coordinator.

**Co-requisite:** MLT 233.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MLT 247 (3 credit hours)****Introduction to Clinical Chemistry**

Introduces the student to a variety of automated instrumentation and methodologies of selected chemistry test procedures. Exposes student to the basic principles as well as the techniques used in clinical chemistry to assess carbohydrates, non-protein nitrogen compounds, amino acids and proteins, lipids and lipoproteins, and enzymes as related to clinical diagnosis. Acquaints the student with basic laboratory mathematics and quality assurance procedures utilized in the clinical laboratory department. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** Admission into MLT program OR permission of the MLT Clinical Coordinator/MLT Program Director.

**Attributes:** Technical

**Components:** LEC: Lecture

**MLT 248 (3 credit hours)****Advanced Clinical Chemistry**

Continues the study of clinical chemistry. Presents a study of lipids and lipoproteins, acid/base balance, electrolytes, endocrine system, liver, gastrointestinal and pancreatic function, therapeutic drug monitoring, and toxicology. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** MLT 247 with a grade of "C" or greater OR permission of the MLT Program Director/MLT Clinical Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture



**MLT 278 (4-5 credit hours)****Practicum I**

Develops performance skills and professional attitude in the student in assigned areas of the clinical laboratory. Utilizes and depends upon external institutions to ensure adequate clinical education and training. Each clinical laboratory affiliate has designated personnel to assist the student in all assigned areas of the clinical laboratory. Provides a prescribed schedule of rotations in various departments of the laboratory for each individual student by the MLT Program Director. This practicum is designed to develop skills with strong supervisory instruction in all assigned departments. Pre-requisite: MLT 101 with a grade of "C" or better OR Admission into MLT program OR permission by MLT Program Director/Coordinator. Practicum: 4-5 credits (240-300 contact hours).

**Pre-requisite:** (MLT 101 with a grade of "C" or better) Or Admission into MLT program; Or permission by MLT program director/coordinator. MLT 101 with a grade of "C" or better OR Admission into MLT program OR permission by MLT Program Director/Coordinator.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** PCM: Practicum

**MLT 279 (4-5 credit hours)****Practicum II**

Develops performance skills and professional attitude in the student in assigned areas of the clinical laboratory. Utilizes and depends upon external institutions to ensure adequate clinical education and training. Each clinical laboratory affiliate has designated personnel to assist the student in all assigned areas of the clinical laboratory. Provides a prescribed schedule of rotations in various departments of the laboratory for each individual student by the MLT Program Director. This practicum is designed to develop skills with strong supervisory instruction in all assigned departments. Practicum: 4-5 credits (240-300 contact hours).

**Pre-requisite:** MLT 101 with a grade of "C" or better OR Admission into MLT program OR permission by MLT Program Director/Coordinator.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** PCM: Practicum

**MLT 2781 (2-2.5 credit hours)****Practicum I Part 1**

Develops performance skills and professional attitude in the student in assigned areas of the clinical laboratory. Utilizes and depends upon external institutions to insure adequate clinical education and training. Each clinical laboratory affiliate has designated personnel to assist the student in all assigned areas of the clinical laboratory. Provides a prescribed schedule of rotations in various departments of the laboratory for each individual student by the MLT program director. This practicum is designed to develop skills with strong supervisory instruction in all assigned departments. Practicum: 2 - 2.5 credits (120-150 contact hours).

**Pre-requisite:** MLT 101 with a grade of "C" or greater or admission into the program.

**Components:** PCM: Practicum

**MLT 2782 (2-2.5 credit hours)****Practicum I Part 2**

Develops performance skills and professional attitude in the student in assigned areas of the clinical laboratory. Utilizes and depends upon external institutions to insure adequate clinical education and training. Each clinical laboratory affiliate has designated personnel to assist the student in all assigned areas of the clinical laboratory. Provides a prescribed schedule of rotations in various departments of the laboratory for each individual student by the MLT program director. This practicum is designed to develop skills with strong supervisory instruction in all assigned departments. Practicum: 2 - 2.5 credits (120-150 contact hours).

**Pre-requisite:** MLT 2781 with a grade of "C" or greater.

**Components:** PCM: Practicum

**MLT 2791 (2-2.5 credit hours)****Practicum II Part 1**

Develops career entry level performance skills and professional attitude in the student in assigned areas of the clinical laboratory. Provides an opportunity for more responsibility and independence with previously learned procedures. Enhances the student's transition to the world of work by providing work experiences in a clinical setting. Utilizes and depends upon external institutions to insure adequate clinical education and training. Each clinical laboratory affiliate has designated personnel to assist the student in assigned areas of the clinical laboratory. Provides a prescribed schedule of rotations in various departments of the laboratory for each individual student by the CLT program director. Practicum: 2 - 2.5 credits (120-150 contact hours).

**Pre-requisite:** MLT 101 with a grade of "C" or greater; OR admission to the MLT program.

**Components:** PCM: Practicum

**MLT 2792 (2-2.5 credit hours)****Practicum II Part 2**

Develops career entry level performance skills and professional attitude in the student in assigned areas of the clinical laboratory. Provides an opportunity for more responsibility and independence with previously learned procedures. Enhances the student's transition to the world of work by providing work experiences in a clinical setting. Utilizes and depends upon external institutions to insure adequate clinical education and training. Each clinical laboratory affiliate has designated personnel to assist the student in assigned areas of the clinical laboratory. Provides a prescribed schedule of rotations in various departments of the laboratory for each individual student by the MLT program director. Practicum: 2 - 2.5 credits (120-150 contact hours).

**Pre-requisite:** MLT 2791 with a grade of "C" or greater.

**Components:** PCM: Practicum

## Medical Office Radiology (MOR)

**MOR 100 (6 credit hours)****Medical Office Limited Radiography**

Provides knowledge and lab experience necessary to meet requirements for Limited Medical Radiography licensure. Consists of patient care and management, radiographic procedures, image production and evaluation, equipment operation and maintenance. Lecture: 4.0 credits (60 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** AHS 109 and AHS 115 with a grade of C or better.

**Co-requisite:** MOR 115.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**MOR 115 (3 credit hours)****Medical Office Limited Radiography Clinical**

Apply the principles and procedures learned to afford the student the opportunity to observe, assist, and perform diagnostic radiographic examinations. Mandated by the State Radiation Control Board, the student shall accrue a total of 360 contact hours and perform the minimum of (50) radiographic examinations in each of the following areas: Chest, Extremities, and Musculoskeletal. Clinical: 3.0 credits (180 contact hours).

**Pre-requisite:** AHS 109 and AHS 115 with a grade of C or better.

**Co-requisite:** MOR 100 Medical Office Limited Radiography.

**Attributes:** Technical

**Components:** CLN: Clinical

**MOR 117 (6 credit hours)****Advanced Medical Office Radiography**

Provides knowledge and lab experience necessary to meet requirements for Limited Medical Radiography licensure. Consists of patient care and management, radiographic procedures, image production and evaluation, equipment operation and maintenance. Lecture: 4.0 credits (60 contact hours). Lab: 2.0 credit (60 contact hours).

**Pre-requisite:** MOR 100 and MOR 115 with a grade of C or better.

**Co-requisite:** MOR 119 Advanced Medical Office Radiology Clinical.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**MOR 119 (3 credit hours)****Advanced Medical Office Limited Radiography Clinical**

Apply the principles and procedures learned in MOR 100 and MOR 115 to afford the student the opportunity to observe, assist, and perform diagnostic radiographic examinations. Mandated by the State Radiation Control Board, the student shall accrue a total of 360 contact hours and perform the minimum of (50) radiographic examinations in each of the following areas: Chest, Extremities, and Musculoskeletal. Clinical: 3.0 credits (180 contact hours).

**Pre-requisite:** MOR 100 and MOR 115 with a grade of C or better.

**Co-requisite:** MOR 117 Advanced Medical Office Radiology.

**Attributes:** Technical

**Components:** CLN: Clinical

## Metroversity (MVC)

**MVC 299 (1-8 credit hours)****Metroversity Topics**

Includes Special Topics for the Metroversity Consortium (Jefferson Community & Technical College, Bellarmine University, Indiana University Southeast, IVY Tech Community College, Louisville Presbyterian Theological Seminary, Southern Baptist Theological Seminary, Spalding University, and University of Louisville). Specific course descriptions, outlines, and competencies will be on file at the credit-bearing institution. GPA 2.0 and completion of 12 credit hours in KCTCS required. Lecture/Lab: 1-8 credit hours.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**MVC 299L (1-8 credit hours)****Metroversity Topics**

Includes Special Topics for the Metroversity Consortium (Jefferson Community & Technical College, Bellarmine University, Indiana University Southeast, IVY Tech Community College, Louisville Presbyterian Theological Seminary, Southern Baptist Theological Seminary, Spalding University, and University of Louisville). Specific course descriptions, outlines, and competencies will be on file at the credit-bearing institution. GPA 2.0 and completion of 12 credit hours in KCTCS required. Lecture/Lab: 1-8 credit hours.

**Components:** LAB: Laboratory

## Mining Technology (MNG)

**MNG 102 (3 credit hours)****Introduction to Mine Engineering and Mining Technology**

Provides orientation to the mining engineering and mining technology professions. Includes introduction to key mining engineering activities and functions, mining methods and equipment, and health and safety subsystems. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 123 (4 credit hours)****Mining Electricity I**

Qualifies students to take the Mine Electrical Certification Exam administered by Kentucky Office of Mine Safety and Licensing. Includes topics of basic electricity, direct current circuits, impedance, reactance, power, electrical energy, permissibility, underground and surface law, solid-state, and national instruments and applications. Lecture: 4.0 credit hours (60 contact hours).

**Co-requisite:** MNG 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 125 (1 credit hours)****Mining Electricity I Lab**

Encompasses an elementary lab for mining technology students. Includes construction of circuits using electrical-measuring instruments in the analysis of the circuits with focus on electrical safety. Emphasizes mining electrical equipment circuits, permissibility and maintenance. Laboratory: 1.0 credits (30 contact hours).

**Co-requisite:** MNG 123.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MNG 150 (3 credit hours)****Mining Laws**

Provides the theory, intent, construction and application of state and federal regulations pertaining to underground and surface coal mining. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 160 (3 credit hours)****Elements of Underground Mining**

Introduces underground mining methods, operations, and procedures. Includes topics of miners' rights, work environments, health and safety standards, roof control, mine ventilation, transportation, communication, compressed gas cylinders, explosives, mine gases and instruments, electrical hazards, accident prevention, and emergency procedures. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 161 (1 credit hours)****Elements of Underground Mining Lab**

Applies the principles and policies of mining methods, operations, and procedures in a controlled laboratory environment. Focuses on the skills associated with the information taught in the paired underground mining lecture course. Pre-requisite OR Lab: 1.0 credit (30 contact hours).

**Co-requisite:** MNG 160.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MNG 170 (2 credit hours)****Elements of Surface Mining**

Introduces study of surface mining methods, operations, and procedures. Includes topics of miners' rights, work environments, ground control, health and safety standards, transportation, communication, compressed gas cylinders, explosives, mine gases and instruments, electrical hazards, accident prevention, and emergency procedures. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 171 (1 credit hours)****Elements of Surface Mining Lab**

Applies the principles and policies of mining methods, operations, and procedures in a controlled laboratory environment. Focuses on the skills associated with the information taught in the paired lecture course for surface mining. Pre-requisite OR Lab: 1.0 credit (30 contact hours).

**Co-requisite:** MNG 170.

**Attributes:** Technical

**Components:** LAB: Laboratory

**MNG 180 (3 credit hours)****Environmental Issues in Mining**

Introduces topic of how underground and surface mining operations impact the environment in a multitude of ways. Includes basic information related to geological formations in mining and structure of coal material. Relates methods to mitigate negative effects of mining. Discusses methods to repair damage to environment. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 185 (3 credit hours)****Mining Permissibility**

Covers the requirements of federal and state law of mining permissibility with a focus on proper methods of checking and maintaining underground permissible equipment in a permissible condition. Includes plane flange joints, step flange joints, slip joints, threaded joints, restraining of cables, power centers, fire extinguishers, cables, and other areas of permissibility. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 190 (3 credit hours)****Mine Emergency Technician**

Applies principles and procedures to identify and treat life threatening conditions. Offers safety training needed to receive a Mine Emergency Technician certificate from Kentucky Department of Mines and Minerals after successful completion of the optional test. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 274 (3 credit hours)****Mine Safety**

Introduces mine safety, program organization, safety training, mine rescue operations, and the role of state and federal governments in mine safety. Includes field trips as an integral part of the course. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 286 (3 credit hours)****Roof Control and Ventilation**

Involves an in-depth study of roof and rib control, and coal mine ventilation. Includes methods of inspection and reporting potential safety hazards, reading roof control plans, processes and procedures involving mine resistance, law, and minimum standards. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**MNG 299 (1-4 credit hours)****Selected Topics in Mining Technology: (Topic)**

Addresses various mining technology topics, issues and trends. Includes topics that may vary from semester to semester at the discretion of the instructors; course may be repeated with different topics to a maximum of four credit hours. Lecture/Lab: 1.0 - 4.0 credits (contact hours 15 - 120).

**Attributes:** Technical

**Components:** LEC: Lecture

## Music (MUS)

**MUS 100 (3 credit hours)****Introduction to Music**

Introduces the elements of music as they apply to the listening experience. Emphasizes the development of an awareness and understanding of musical styles from the Middle Ages to the present. Designed for the non-music major with no prior knowledge of music and is not intended to fulfill a program course requirement for music majors. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Course Also Offered in Modules

**Components:** LEC: Lecture

**MUS 104 (3 credit hours)****Introduction to Jazz History**

A survey of the many facets of jazz music. Designed to follow stylistic trends as developed from 19th century African and European influences to the modern forms of today. The study of significant composers, performers, and terminology associated with this uniquely American art form through listening assignments, reading and discussion activities. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**MUS 106U (3 credit hours)****Music in Film**

Presents a survey of the history of film from the silent era to the present. Develops critical listening, viewing, and analytical skills in relation to the function of music in film. Explores various cultural, artistic traditions which inform the musical styles in film. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, University Course (Morehead State University)

**Components:** LEC: Lecture

**University Course:** Morehead State University

**MUS 120 (3 credit hours)****Music Technology I**

Introduces the use of technology as a tool for music creativity and productivity. Includes knowledge of how to create various styles of contemporary music utilizing loop and sampling based technology, creation of wav files, MP3 files, CD layout, and class projects. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** MUS 174 or Consent of Instructor.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**MUS 150 (1 credit hours)****Class Instruction in Piano I**

Introduces the fundamentals of piano playing to beginners. Lab: 1.0 credit (30 contact hours)

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 151 (1 credit hours)****Class Instruction in Piano II**

Develops the fundamentals of piano playing on a second level, with advanced beginner music and technique. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** MUS150.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 152 (1 credit hours)****Class Instruction in Piano III**

Develops the fundamentals of piano playing on an early intermediate level, with an emphasis on expanded repertoire. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** MUS 151.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 153 (1 credit hours)****Class Instruction in Piano IV**

Develops the technique and musical content of piano playing on an upper intermediate level, with an emphasis on upper intermediate repertoire. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** MUS152.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 155 (1 credit hours)****Voice Class for Non-Music Majors**

Includes applied voice group instruction for non-music majors with emphasis on basic breathing and vocal technique, elements of music notation, and diction. May be repeated for a maximum of 2 credits. Lab: 1 credit (15 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 172 (3 credit hours)****Theory I for Bluegrass Music Majors**

Introduces the basic materials of musical organization, focusing on music reading, rudiments of notation, pitch, scale, tonal, and rhythmic organization, melodic construction, simple harmonic vocabulary, and beginning aural training. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**MUS 173 (3 credit hours)****Music Theory II for Bluegrass Music Majors**

Continues the study of the basic materials of musical organization, focusing on more advanced music reading and music notation. Introduces modal scales, the Nashville Number System, and bluegrass song structures. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MUS 172.

**Attributes:** Other

**Components:** LEC: Lecture

**MUS 174 (3 credit hours)****Theory for Nonmusic Majors**

Introduces basic materials of musical organization, focusing on music reading, rudiments of notation, pitch, scale, tonal, and rhythmic organization, melodic construction, simple harmonic vocabulary, and beginning aural training. Uses individual composition and improvisation exercises to approach much of this material. Ability to read music is not a pre-requisite. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**MUS 175 (1 credit hours)****Jazz Ensemble**

Introduces the study of jazz through performance and may be repeated to a maximum of four credits. Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 187 (1 credit hours)****Concert Band**

Continues instrumental music experience through participation in a large concert band. May be repeated to a maximum of four credits. Laboratory: 1 credit (15 contact hours).

**Pre-requisite:** Ability to read music and play a band instrument.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 192 (1 credit hours)****University Chorus**

Includes choral literature and performance requiring attendance at up to five hour of rehearsals per week. May be repeated up to 3 times for a total of 4 credits. May require audition and/or consent of instructor. Lab: 1 credit (15-45 contact hours).

**Pre-requisite:** Audition and consent of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUS 206 (3 credit hours)****American Music History**

Includes a history of music in America from c. 1620 to the present. Requires listening to recordings, reading the primary text and suggested readings in books, periodicals, and documents. Focuses on important names, places, events, and styles in music, as well as important historical trends and movements. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**MUS 207 (3 credit hours)****African American Music History**

A history of African American music from Pre-colonial West African diasporas through American colonial times to the present. Requires listening to recordings, reading the primary text and suggested readings in books and periodicals. Important names, places, events, and styles in music, as well as important historical and sociological trends will be presented within the context of the African American experience. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**MUS 208 (3 credit hours)****World Music**

A geographic survey of selected music cultures throughout the world with hands-on experience playing the music of diverse cultures, audio/video examples of music-cultures in performances, reading and writing assignments, and attendance and reporting at live music events. Includes informational presentations by students, group listening and discussion, simple musical instrument construction, and small group projects. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**MUS 222 (3 credit hours)****History and Sociology of Rock Music**

Provides a listening survey course, with a chronological approach, covering the years 1950- present. Emphasizes both the music and the sociological climate reflected and advocated by the music. Lecture: 3 credits ( 45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**MUS 223 (3 credit hours)****Music for Elementary Teachers**

Covers music rudiments of music theory and methods for teaching music to elementary school children. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**MUS 260 (2 credit hours)****Teaching Music in the Elementary Grades I**

Develops musicianship, skills, and techniques teachers need to direct musical activities effectively in the elementary classroom. Introduces music fundamentals and teaching materials through active participation in musical activities, focusing on music education appropriate for elementary grades. Should be taken by classroom teachers and non-music majors and followed by MUS 261. Lecture/Lab: 2 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**MUS 261 (2 credit hours)****Teaching Music in the Elementary Grades II**

Builds on the musicianship skills and techniques learned in MUS 260. Develops the process of selecting and teaching musical materials appropriate for elementary-aged children. Introduces methods of integrating music across the elementary curriculum. Should be taken immediately following completion of MUS 260. Lecture/Lab: 2.0 credits (45 contact hours).

**Pre-requisite:** MUS 260.

**Attributes:** Other

**Components:** LEC: Lecture

**MUS 299 (1-3 credit hours)****Special Topics in Music**

Examines selected topics in music and/or their impact on culture. May include but is not limited to individual composers, music genres, defined eras, and applied skills. Topics may vary from semester to semester at the discretion of the instructor. Lecture: 1-3 credits (15-45 contact hours).

**Pre-requisite:** MUS 100 or consent of the instructor.

**Attributes:** Other

**Components:** LEC: Lecture

## Music Performance (MUP)

**MUP 101 (1-3 credit hours)****Piano**

Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Laboratory: varies.

**Pre-requisite:** Satisfactory audition and/or approval of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUP 102 (1-3 credit hours)****Voice**

Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Laboratory: varies.

**Pre-requisite:** Satisfactory audition and/or approval of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUP 123 (1-3 credit hours)****Classical Guitar**

Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Laboratory: varies.

**Pre-requisite:** Satisfactory audition and/or approval of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUP 201 (1-3 credit hours)****Piano**

Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Laboratory: varies.

**Pre-requisite:** Satisfactory audition and/or approval of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory

**MUP 223 (1-3 credit hours)****Classical Guitar (Second Level)**

Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Laboratory: varies.

**Pre-requisite:** Satisfactory audition and/or approval of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory



# Nursing (NRS)

## NRS 101 (9 credit hours)

### Nursing Care I

Establishes the foundational knowledge for competency based nursing practice within the context of the contemporary health care delivery system by introducing the nursing process and basic nursing concepts as a framework for organizing care delivery. Introduces the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Applies problem-solving and critical thinking skills in the care of patients across the life span and of diverse cultures with actual or potential alterations in health due to common acute and chronic health problems. Includes the application of the nursing process to meet the needs of patients at the practical nursing level. Lecture: 5 credit hours (75 contact hours). Clinical: 4 credit hours (180 contact hours).

**Pre-requisite:** Admission to the Nursing Program; Proof of active status on Kentucky Medicaid Nurse Aide Registry or its equivalent; BIO 137 and Quantitative Reasoning Course at AA/AS Level with a grade of "C" or better; PSY 110.

**Pre- or co-requisite:** BIO 139 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

## NRS 102 (10 credit hours)

### Nursing Care II

Includes the application of problem-solving and critical thinking skills in the care of patients across the life span and of diverse cultures with actual or potential alterations in health due to common acute and chronic health problems. Provides care of patients during the childbearing cycle focusing on common health alterations in the reproductive process. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN) while higher level skills are introduced. Includes an integrated clinical practicum of direct patient care in a health care facility or health care organization to facilitate the transition from student role to LPN practice. Pre-requisite Or Lecture: 5 credit hours (75 contact hours). Clinical: 5 credit hours (225 contact hours).

**Pre-requisite:** NRS 101 with letter grade of "C" or better.

**Co-requisite:** ENG 101.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

## NRS 200 (3 credit hours)

### LPN-ADN Transition

Facilitates the transition of licensed practical nurses into the nursing mobility program by building upon previous knowledge, attitudes, and cognitive and psychomotor skills using strategies of adult learning. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Orients the student to the philosophy and organizing framework of the ADN Program and assists the practical nurse to make the role transition to registered nursing. Essential concepts and beginning problem-solving skills required for registered nursing practice are emphasized. Nineteen credit hours in nursing will be awarded upon successful completion of the course. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** Admission to nursing program; BIO 137, BIO 139, and Quantitative Reasoning Course at AA/AS Level with a grade of "C" or better; ENG 101, PSY 110.

**Attributes:** Technical

**Components:** LEC: Lecture

## NRS 203 (9 credit hours)

### Nursing Care III

Applies problem-solving and critical thinking skills in the care of diverse patients/families across the life span with actual or potential alterations in health due to complex acute and chronic health problems. Emphasizes leadership, management concepts, clinical decision-making, knowledge, judgment, skills and professional values within a legal/ethical framework. Introduces the RN responsibilities in relation to the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Pre-requisite Or Lecture: 5 credit hours (75 contact hours). Clinical: 4 credit hours (180 contact hours).

**Pre-requisite:** NRS 102 with a grade of "C" or better.

**Co-requisite:** BIO 225 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

## NRS 204 (10 credit hours)

### Nursing Care IV

Integrates previous knowledge and skills into the development of the associate degree nurse. Focuses on the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN) with an emphasis on leadership, management, clinical decision-making, collaboration, knowledge, judgment, skills and professional values within a legal/ethical framework. Applies problem-solving and critical thinking skills in the care of diverse patients/families across the lifespan with actual or potential alterations in health due to complex acute and chronic health problems. Includes an integrated clinical practicum of direct patient care in a health care facility or health care organization to facilitate the transition from student role to RN practice. Pre-requisite Or Lecture: 6 credit hours (90 contact hours) Clinical: 4 credit hours (180 contact hours).

**Pre-requisite:** NRS 203 and BIO 225 with a grade of "C" or better.

**Co-requisite:** Heritage/Humanities Course.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture



## Nursing (NSG)

### NSG 100 (3 credit hours)

#### Preparation for Nursing

Explores careers in the nursing profession. Includes career options and educational pathways, goal setting and self-awareness, tools/strategies for success in nursing programs, and trends impacting nursing's future. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

### NSG 101 (9 credit hours)

#### Nursing Practice I

Focuses on nursing practice within the context of the contemporary health care delivery system by introducing the nursing process and basic nursing concepts as a framework for organizing care delivery. Emphasizes foundational knowledge of nursing practice, skills acquisition, and the basic care of diverse patient populations. Introduces the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). (BIO 137 and Quantitative Reasoning Course at AA/AS level) with a grade of "C" or better, PSY 110, and 75 hour nursing assistant course or its equivalent. Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).

**Pre-requisite:** Admission to the Associate Degree Nursing program.

**Pre- or co-requisite:** BIO 139 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

### NSG 106 (9 credit hours)

#### Nursing One

Focuses on nursing practice within the context of the contemporary health care delivery system by introducing the nursing process and basic nursing concepts as a framework for organizing care delivery. Emphasizes foundational knowledge of nursing practice, skills acquisition, and the basic care of diverse patient populations with risk for or actual common chronic health pattern dysfunctions. Introduces the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry. [BIO 137 (within ten years) and Quantitative Reasoning Course at AA/AS level] with a grade of "C" or better; PSY 110, 75 hour nursing assistant course or its equivalent. Pre-requisite or Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).

**Pre-requisite:** Admission to the Associate Degree Nursing program.

**Co-requisite:** BIO 139 with a grade of "C" or better (within 10 years) and ENG 101.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

### NSG 109 (6 credit hours)

#### Transition: Medic to ADN I

Builds upon the basic nursing skills and concepts learned as a military medic. Assists the medic in making the beginning transition to the RN role. Introduces four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Upon successful completion of all components of the course the student will be admitted to NSG 209 and will have earned three (3) credit hours of advanced standing for a total of nine (9) credits. BIO 137 and Quantitative Reasoning Course at AA/AS level with a grade of "C" or better, PSY 110, documentation of completing Level 10 Military Medic certification. Lecture: 5 credits (75 contact hours) Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Admission to the Associate Degree Nursing program.

**Pre- or co-requisite:** BIO 139 must be completed with a grade of "C" or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

### NSG 194 (7 credit hours)

#### Paramedic Transition to Nursing Practice

Builds upon the basic skills and concepts learned as a paramedic. Assists paramedics in transitioning to registered nursing. Focuses on application of the core components of nursing practice to adult patients experiencing actual or potential alterations in health. Strengthens the competencies of nursing practice, including human flourishing, nursing judgment, professional identity, and spirit of inquiry, and Quality and Safety Education for Nurses (QSEN). Emphasizes the concepts of nutrition, metabolism, endocrine, elimination, and integumentary. Lecture: 4 credits (60 contact hours). Clinical: 3 credits (135 contact hours).

**Pre-requisite:** BIO 139 with a grade of "C" or better; unrestricted National Registry or Kentucky Paramedic License; and Program Admission OR Consent of Instructor.

**Pre- or co-requisite:** NSG 212 and ENG 101.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

### NSG 195 (4 credit hours)

#### Transition to ADN

Builds upon the basic nursing skills and concepts learned in the LVN/ LPN experience. Assists the Practical Nurse to make the beginning transition to the RN role. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Emphasizes the concepts of nutrition, metabolism, endocrine, elimination, and integumentary. Sixteen credit hours in nursing will be awarded upon successful completion of the course. Lecture: 3.5 credits (52.5 contact hours). Clinical: 0.5 credit (22.5 contact hours).

**Pre-requisite:** Admission to the Associate Degree nursing Program and (BIO 137, BIO 139, and Quantitative Reasoning Course at AA/AS Level) with a grade of "C" or better, PSY 110, and ENG 101.

**Co-requisite:** NSG 212 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**NSG 196 (5 credit hours)****Nursing LPN Bridge Course**

Builds upon the LVN/LPN experiences in application of core components of nursing. Focuses on nursing care for patients with mental health dysfunctions and patients experiencing acute and/or chronic health dysfunctions. Builds upon the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry. Covers selected content and skills from Nursing One and Nursing Two. Includes the role of the Associate Degree Nurse and application of the core components of nursing practice to patients experience. Lecture: 4 credits (60 contact hours). Clinical: 1 credit (45 contact hours).

**Pre-requisite:** Licensed practical nurse with the board of nursing, BIO 137, BIO 139, Quantitative Reasoning at an AA/AS level or higher (all of these must be a "C" or better and within the last 10 years), PSY 110, ENG 101.

**Pre- or co-requisite:** HST 121.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 199 (2 credit hours)****Accelerated Transition: PN-A.D.N Bridge**

Provides an accelerated course designed for the LPN/LVN who demonstrates through competency assessment the ability to build upon previous learning and experience. Focuses on the beginning transition to the RN role, the acquisition of essential skills and the development of critical thinking, emphasizing the concepts of nutrition, metabolism, endocrine, elimination, and integumentary. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Sixteen credit hours in nursing will be awarded upon successful completion of the course. Lecture: 1.5 credits (22.5 contact hours). Clinical: 0.5 credit (22.5 contact hours).

**Pre-requisite:** Admission to the Associate Degree nursing Program and BIO 137, BIO 139, and Quantitative Reasoning Course at AA/AS Level with a grade of "C" or better, PSY 110, ENG 101, and a passing score on a national normed PN to RN mobility examination.

**Co-requisite:** NSG 212 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 206 (9 credit hours)****Nursing Two**

Includes the application of the core components of nursing to patients experiencing alterations in health. Focuses on nursing care for patients with mental health dysfunctions and patients experiencing acute and/or chronic health dysfunctions. Builds upon the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry. Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).

**Pre-requisite:** NSG 106 with a grade of "C" or better.

**Pre- or co-requisite:** HST 121.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 209 (5 credit hours)****Transition: Medic to ADN II**

Builds upon the Level 10 Military Medic experiences in application of core components of nursing. Focuses on the continued development of critical thinking, emphasizing the concepts of nutrition, metabolism, endocrine, elimination, and integumentary systems. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry, and Quality and Safety Education for Nurses (QSEN). Upon successful completion of all components of the course the student will be admitted to NSG 229 and will have earned two (2) credit hours of advanced standing for a total of seven (7) credits. Lecture: 4 credits (60 contact hours) Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** NSG 109 and BIO 139 with a grade of "C" or better.

**Pre- or co-requisite:** NSG 212 with a grade of "C" or better and ENG 101.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**NSG 211 (3 credit hours)****Maternal Newborn Nursing**

Focuses on the application of the core components of nursing practice to the care of childbearing families. Illustrates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Pre-requisite or Lecture: 2 credits (30 contact hours). Clinical: 1 credit (45 contact hours).

**Pre-requisite:** (NSG 219 and NSG 212) with a grade of "C" or higher, and ENG 101.

**Co-requisite:** NSG 229 and BIO 225 with a grade of "C" or higher.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 212 (3 credit hours)****Behavioral Health Nursing**

Focuses on the application of the core components of nursing practice to adult patients experiencing actual or potential alterations in mental health. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 2 credits (30 contact hours). Clinical: 1 credit (45 contact hours).

**Pre-requisite:** NSG 101 and BIO 139 with a grade of "C" or higher.

**Pre- or co-requisite:** NSG 219 with a grade of "C" or higher, and ENG 101.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 213 (3 credit hours)****Pediatric Nursing**

Focuses on the application of the core components of nursing practice to the care of the child and family. Validates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). (Unsuccessful completion of NSG 213 will require mandatory withdrawal from NSG 239; 201 KAR 20:320). Lecture: 2 credits (30 contact hours). Clinical: 1 credit (45 contact hours).

**Pre-requisite:** NSG 229 and NSG 211 and BIO 225 with a grade of "C" or better.

**Co-requisite:** NSG 229 and NSG 211 and BIO 225 with a grade of "C" or better.

**Pre- or co-requisite:** Heritage/Humanities.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 217 (4 credit hours)****Transition: Military LPN to RN**

Builds upon the basic nursing skills and concepts learned as an LPN in a military environment and reinforces gerontology. Assists military trained PN's to make the transition to the RN role. Introduces four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry, and Quality and Safety Education for Nurses (QSEN). Awards sixteen credit hours in nursing upon successful completion of the course and admission into NSG 229. Lecture: 3 credits (45 contact hours). Clinical: 1 credit (45 contact hours).

**Pre-requisite:** Admission to the Associate Degree Nursing Program and (BIO 137, BIO 139, and quantitative Reasoning course at AA/AS level with a grade of "C" or better in each course), PSY 110, ENG 101 and documentation of completing the military LPN program.

**Pre- or co-requisite:** NSG 212 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**NSG 219 (7 credit hours)****Medical Surgical Nursing I**

Focuses on the application of the core components of nursing practice to adult patients experiencing actual or potential alterations in health. Strengthens the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Emphasizes the concepts of nutrition, metabolism, endocrine, elimination, and integumentary. Lecture: 4 credits (60 contact hours). Clinical: 3 credits (135 contact hours).

**Pre-requisite:** NSG 101 and BIO 139 with a grade of "C" or better.

**Pre- or co-requisite:** NSG 212 with a grade of "C" or better and ENG 101.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**NSG 229 (7 credit hours)****Medical Surgical Nursing II**

Focuses on the application of the core components of nursing practice to adult patients experiencing actual or the potential for alterations in health. Illustrates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Emphasizes the concepts of oxygenation, circulation, perfusion, and activity/exercise. Lecture: 4 credits (60 contact hours). Clinical: 3 credits (135 contact hours).

**Pre-requisite:** NSG 219 and NSG 212 with a grade of "C" or higher and ENG 101.

**Pre- or co-requisite:** NSG 211 and BIO 225 with a grade of "C" or higher.

**Attributes:** Technical

**Components:** CLN: Clinical, LEC: Lecture

**NSG 236 (9 credit hours)****Nursing Three**

Includes application of the core components of nursing to the care of childbearing and child-rearing families experiencing functional and dysfunctional alterations in health. Applies the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry. Pre-requisite or Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).

**Pre-requisite:** NSG 206 OR NSG 196 with a grade of "C" or better.

**Co-requisite:** BIO 225 (within 10 years) with a grade of "C" or better.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 239 (6 credit hours)****Medical/Surgical Nursing III**

Focuses on the application of the core components of nursing practice to adult patients experiencing actual or the potential for alterations in health. Validates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Emphasizes the concepts of: neurological, eyes/ears, immune/cancer, multiple systems organ failure, and disaster planning. Role transition is addressed and emphasizes leadership, management of care, skill development and professionalism. NSG 239 is the capstone course and must be successfully completed in the final semester of the associate degree nursing program enrollment. (201 KAR 20: 320). Lecture: 3 credits (45 contact hours). Clinical: 3 credits (135 contact hours).

**Pre-requisite:** NSG 229 and NSG 211 and BIO 225 with a grade of "C" or better.

**Pre- or co-requisite:** NSG 213 with grade of "C" or better and Heritage/Humanities.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 246 (9 credit hours)****Nursing Four**

Emphasizes the development of the nurse as a provider of care, manager of care, and member of the nursing profession. Provides for the application of critical thinking skills in the care of diverse patients/families across the lifespan with actual or potential alteration in health due to complex acute and chronic health problems. Includes an integrated practicum with an emphasis on leadership, management, clinical judgment, collaboration, knowledge, skills, and professional values within the legal/ethical framework to facilitate the transition of the student to Registered Nurse practice. Lecture: 5.0 credits (75 contact hours). Laboratory/Clinical: 4.0 credits (180 contact hours, 45:1 ratio).

**Pre-requisite:** NSG 236 with a grade of "C" or better.

**Pre- or co-requisite:** Heritage/Humanities/Foreign Language.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NSG 299 (1-4 credit hours)****Selected Topics in Nursing: (Topic)**

Various nursing topics, issues, and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructors; courses may be repeated with different topics to a maximum of six credit hours. Lecture: Varies by topic; Laboratory: Varies by topic.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Nursing Assistant (NAA)

**NAA 100 (3 credit hours)****Nursing Assistant Skills I**

Provides knowledge and skills for nurse aides to assume the role and responsibility required in a long term care setting. The focus is communication, infection control, safety, resident/patient rights, and basic nursing skills. Note: Faculty and clinical sites must comply with applicable Federal and Kentucky laws and regulations including but not limited to 42 USC 1396r and 907 KAR 1:450. Lecture: 3 credits (75 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**NAA 102 (3 credit hours)****Basic Health Unit Coordinating**

Presents the duties and responsibilities of the health unit coordinator with an emphasis on communication skills, confidentiality, legal and ethical issues, and order entry. Lecture 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**NAA 115 (3 credit hours)****Nursing Assistant II**

Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. Builds upon MNA 100/NAA 100 and prepares the student to perform advanced nursing assistant skills. Lecture: 2.0 credits (30 contact hours) Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** ((MNA 100 or NAA 100) with a grade of "C" or above within one year) or Active Status on the Kentucky Nurse Aide Registry (in good standing)) or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**NAA 125 (6 credit hours)****Advanced Nursing Assistant**

Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. Focuses on communication, infection control, safety, resident/patient rights while preparing the student to perform advanced nursing assistant skills. Note: Faculty and clinical sites must comply with applicable Federal and Kentucky laws and regulations including but not limited to 42 USC 1396r and 907 KAR 1:450. Lecture/Lab: 6.0 credits (150 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Nursing Integrated Program (NIP)

**NIP 116 (10 credit hours)****Fundamentals of Nursing**

Focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse clients utilizing the six integrated concepts of nursing practice: context and environment, knowledge and science, personal/professional development, quality and safety, relationship-centered care, and teamwork. Explores current and historical issues impacting nursing. Introduces framework for organizing the care of clients with alterations in basic human needs by incorporating the seven core values of caring, diversity, excellence, integrity, ethics, holism, and patient-centeredness. Focuses on the integration of knowledge, skills acquisition, and critical thinking in the provision of prudent health care delivery. Examines client's needs, health promotion, basic human needs, prevention of complication as related to mechanisms of self-defense including immunity, inflammation, infection, and the surgical patient. Examines client's needs, health promotion, therapeutic communication, treatment modalities, concepts of mental health and assessment of clients with psychosocial problems. Introduces skills related to mental health care, such as areas of adaptive/maladaptive behaviors and specific mental health disorders in a variety of health care settings. Introduces dosage calculations and medication administration of commonly used medications. Emphasizes nursing responsibility, accountability and application of nursing process to drug therapy across the lifespan. Completion, with "C" or better, BIO 137, PSY 110, ENG101, Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course. Lecture: 7 credits (105 contact hours). Lab/Clinical: 3 credits (135 contact hours).

**Pre-requisite:** Admission to the Integrated Nursing Program and proof of active status on the Kentucky Nurse Aid Registry.

**Pre- or co-requisite:** BIO 139.

**Attributes:** Digital Literacy, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NIP 126 (10 credit hours)****Nursing Care Across the Lifespan**

Focuses on care of clients across the lifespan with stressors to normal lines of defense in hematology, immune, integumentary, fluid and electrolyte/acid/base imbalance, respiratory, musculoskeletal, cardiovascular, gastrointestinal/hepatobiliary, renal/urinary, neurological/sensory and endocrine and reproductive health. Included is nursing care throughout normal pregnancy and the postpartum period, as well as nursing care of the normal newborn and the childbearing family. Integrates the concepts of nursing practice: context and environment, knowledge and science, personal/professional development, quality and safety, relationship-centered care, and teamwork. Uses the Neuman's Systems Model to provide care for clients by incorporating the core values of caring, diversity, excellence, integrity, ethics, holism, and client-centeredness. Examines the client's needs, health promotion, various treatment modalities, and nursing interventions, through clinical experience and theory application. Lecture: 7 credit hours (105 contact hours). Lab/Clinical: 3 credit hours (135 contact hours).

**Pre-requisite:** Completion with a grade of "C" or better in NIP 116 and BIO 139; Student must have Basic life support certification, current liability insurance coverage and current immunizations for the duration of the course.

**Pre- or co-requisite:** AHS 100.

**Attributes:** Digital Literacy, Technical

**Components:** LAB: Laboratory, LEC: Lecture



**NIP 140 (6 credit hours)****Practical Nursing Role Transition**

Prepares students to assume the role of graduate practical nurse. Promotes clinical judgment, delegation and collaboration in the provision of safe, ethical, holistic patient centered care. Explores healthcare management systems and employment seeking skills as students begin to develop a professional identity. Includes a clinical practicum in a health care facility utilizing the nursing process and evidence-based information in delivering clinically competent care. Students must have Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course. Lecture: 2.0 credits (30 contact hours). Lab/Clinical: 4.0 credits (180 contact hours).

**Pre-requisite:** Completion with a grade of "C" or better in NIP126.

**Attributes:** Digital Literacy, Technical

**Components:** CLN: Clinical, LEC: Lecture

**NIP 212 (10 credit hours)****Advanced Medical Surgical Nursing**

Focuses on advanced assessment of diverse individuals throughout the lifespan by incorporating the integrating concepts of nursing practice: context and environment, knowledge and science, personal/professional development, quality and safety, relationship-centered care, and teamwork. Utilizes the nursing process in care and management of clients with complex health care needs and disorders of self-defense/protection: skin, hair and nails, cancer, immune system, hematological system, cardiovascular system, respiratory system, endocrine system, gastrointestinal system, reproductive system, renal system, nervous system, and musculoskeletal system across the lifespan. Students must have Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course. Lecture: 7 credit hours (105 contact hours). Lab/Clinical: 3 credit hours (135 contact hours).

**Pre-requisite:** Completion with grade of "C" or better in NIP 126 or successful completion of a Practical Nursing program curriculum and proof of active unencumbered Kentucky or Compact State Practical Nurse Licensure.

**Pre- or co-requisite:** Quantitative Reasoning to meet the AA or AS requirement.

**Attributes:** Digital Literacy, Technical

**Components:** CLN: Clinical, LEC: Lecture

**NIP 216 (9 credit hours)****Leadership and Transition to Practice**

Prepares the student in the Associate Degree Nursing Program to assume the role of a graduate nurse in the synthesis and application of the nursing process for the holistic care of the patient with complex, multidimensional stressors. Emphasizes leadership and management of care, continued skill development and professionalism: to include ethics, integrity, excellence, teamwork, diversity and caring. Integrates theories and concepts from all nursing courses and provisions for practice in predominantly health care settings. Emphasizes prevention of illness, maintenance of health, and the restoration of wellness of individuals, families, and communities. Utilizes management skills and techniques in the delivery of patient-centered nursing care to facilitate the role transition from student to professional nurse. Utilizes simulation and clinical experiences for students to gain knowledge in important nursing leadership areas in order to benefit the nurse in the transition to practice. Students must have Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course. Lecture: 5 credits (75 contact hours). Lab/Clinical: 4 credits (180 contact hours).

**Pre-requisite:** Completion with a grade C or better in NIP 212 and Quantitative Reasoning (must meet AA or AS requirements).

**Pre- or co-requisite:** Heritage/Humanities.

**Attributes:** Digital Literacy, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NIP 220 (2 credit hours)****Advanced Cardiac & Emergent Care**

Focuses on administration of care for acute cardiovascular emergencies including cardiac arrest, acute myocardial infarction, and stroke. Prepares students to participate in emergency care of patients highlighting the importance of team dynamics and communication, systems of care, and immediate post-cardiac-arrest care. Educates students on airway management and related pharmacology. Students demonstrating essential knowledge and skills, obtaining 85% or greater on the written exam, and successfully completing the megacode will receive an American Heart Association ACLS provider card. Students must have Basic Life Support certification. Lecture: 0.5 credits (7.5 contact hours). Lab: 1.5 credits (67.5 contact hours).

**Pre-requisite:** Completion with grade of "C" or better in NIP 211 and MAT 150.

**Co-requisite:** NIP 215.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Nutrition and Food Science (NFS)

**NFS 101 (3 credit hours)****Human Nutrition and Wellness**

Food composition, digestion, absorption, and metabolism as related to selection of nutrients essential for human life, growth, reproduction, lactation, wellness, and physical activity. Not open to NFS majors except hospitality management students. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture



# Occupational Therapy Assistant (OTA)

## OTA 101 (3 credit hours)

### Introduction to Occupational Therapy

Introduces the profession of occupational therapy by examination of history, philosophy, and theoretical foundations. Examines roles of Occupational Therapist (OT) and Occupational Therapy Assistant (OTA) with respect to education, credential, employment settings, and ethics. Outlines usage of Occupational Therapy Practice Framework, medical terminology, group dynamics, and communication skills. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** Completion of ENG 101 with a "C" or better and consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## OTA 113 (2 credit hours)

### Applied Anatomy and Kinesiology

Studies the musculoskeletal and nervous systems of the human body in relationship to movement and function. Emphasizes the upper extremity and shoulder girdle. Focuses on innervation of muscles, muscle grouping for function, and common problems seen when these systems are affected by disease/injury. Introduces the analysis of movement in specific life tasks. Uses the goniometer for joint measurement, manual muscle testing for strength, and promotes familiarity with the terms and techniques used in assessing motor function. Lecture/Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## OTA 115 (2 credit hours)

### Skills and Interventions I

Develops the basic foundational principles/applications of occupational therapy, such as the concept of basic needs, therapeutic interventions, techniques, applications, analysis, safety, and adaptive skill development as the basics of an individual's occupational performance. Provides explanation and introductory lab practice of the occupational therapy assistant elements. Lecture/Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Co-requisite:** OTA 267 OR OTA 277.

**Attributes:** Technical

**Components:** LEC: Lecture

## OTA 116 (2 credit hours)

### Media Principles and Procedures I

Develops skills in planning, implementing and evaluating occupational therapy for individuals experiencing deficits in occupational performance through the analysis of human occupation and subsequent methods of remediating, compensating, grading, and/or modifying activities and environments for optimal occupational performance. Develops communication skills necessary for documentation and patient interaction. Focuses on appropriate treatment and need for awareness of ethnic, cultural, and socio-economic factors that impact individuals. Provides opportunities for students to develop skills in activity analysis, functional mobility, therapeutic crafts, and modalities. Lab: 2.0 credits (90 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

## OTA 125 (2 credit hours)

### Assistive Technology and Documentation

Presents various methods of documentation used in occupational therapy settings for evaluation, intervention, justification of payment for equipment, discharge, and other client records, and requirements of third party payers. Explores assistive technology to facilitate knowledge in a broad range of devices, services, strategies, and practices conceived and applied to decrease the problems faced by individuals. Lecture/Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## OTA 126 (1 credit hours)

### Level IA Fieldwork

Provides the opportunity to observe and participate in various settings appropriate to occupational therapy service but not necessarily within a therapy department or under an occupational therapy professional. Provides opportunities to develop entry-level skills in the occupational therapy process with hands-on interaction as appropriate. Encourages development of professional behaviors and effective communication skills. Clinical: 1.0 credit (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

## OTA 136 (4 credit hours)

### Physical Dysfunction

Includes study of physical conditions commonly seen by Occupational Therapy, including diagnoses, instruction on treatment, and application of treatment. Introduces practice models to guide treatment applications, including procedures for multiple conditions in physical dysfunction. Lecture/Lab: 4.0 credits (120 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## OTA 146 (3 credit hours)

### Occupational Therapy in Mental Health

Presents typical and dysfunctional behavior using the occupational therapy process as it pertains to mental health practice settings. Explores alternative methods and settings for mental health practice. Covers training and practice in interpersonal skills necessary for effective communication with clients, families, significant others, other health care professionals, and the public. Lecture/Lab: 3.0 credits (75 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## OTA 206 (2 credit hours)

### Community Practice

Explores the current and emerging practice areas of occupational therapy in the immediate and future needs. Focuses on occupation-based practice, holism, wellness, and prevention models applied throughout the lifespan. Lecture/Lab: 2.0 credits (60 contacts)

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OTA 216 (2 credit hours)****Media Principles and Procedures II**

Provides students the opportunity to apply skills in evaluating and planning occupational therapy for individuals experiencing deficits in occupational performance in a safe and efficient manner. Develops assessment skills in order to plan appropriate treatments applicable to deficits in occupational performance, including fabrication of orthotics and adaptive equipment and techniques. Develops communication skills necessary for documentation and patient interaction. Provides opportunities for students to develop skills in assessment, adaptations, orthotics and appropriate treatment with awareness of ethnic, cultural, and socio-economic factors that impact individuals. Lab: 2.0 credits (90 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**OTA 225 (2 credit hours)****Skills and Interventions II**

Incorporates analysis, instruction and implementation of occupational therapy treatment techniques. Provides opportunities to apply theoretical concepts in practice situations, involving higher-level activities of daily living, comprehensive analysis, purposeful activity, modalities and neurological re-education. Applies implementation skills necessary for level II fieldwork and to work as entry-level occupational therapy assistant. Lecture/Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OTA 226 (1 credit hours)****Level IB Fieldwork**

Provides the opportunity to observe and participate in various settings appropriate to occupational therapy service but not necessarily within a therapy department or under an occupational therapy professional. Provides opportunities to develop intermediate skills in the occupational therapy process. Provides opportunities for students to advance therapeutic skills and to generalize skills and knowledge from the classroom to the practice setting. Hones professional behaviors and communication skills established in previous occupational therapy classes. Clinical: 1.0 credit (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**OTA 236 (2 credit hours)****Professional Transitions and Management**

Explores professional issues related to the transition from student to practitioner, the relationships the occupational therapy assistant (OTA) has with other health care professionals, identification of licensure and certification requirements, professional memberships, job search strategies, methods of reimbursement, and formulation of professional resources to become a successful entry level therapist. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OTA 246 (3 credit hours)****Pediatric Issues in Occupational Therapy**

Examines occupational therapy in the pediatric population. Investigates how physical, emotional, and cognitive processes begin, change, and develop from birth through adolescence. Addresses concepts of occupation in pediatrics. Encourages students to view treatments holistically while learning normal developmental milestones and various disabilities. Lecture/Lab: 3.0 credits (75 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OTA 256 (2 credit hours)****Elder Issues in Occupational Therapy**

Explores the concerns for occupational therapy in the aging population. Examines how physical, emotional and cognitive processes change through adulthood. Discusses the concepts of occupational therapy throughout the life span employing a holistic approach to intervention. Lecture/Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OTA 267 (5 credit hours)****Level IIA Fieldwork**

Provides opportunity to function in various clinical settings under supervision of experienced occupational therapy practitioner. Promotes collaboration with the Occupational Therapist in planning/implementation of treatment programs with clients with a variety of diagnoses and ages. Cultivates skills necessary to function at entry-level of practice through the first of two successive fieldwork rotations in unique healthcare settings/institutions. Practicum: 5.0 credits (300 contact hours).

**Pre-requisite:** Admission to the Occupational Therapy Assistant Program or permission of instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**OTA 277 (5 credit hours)****Level IIB Fieldwork**

Provides opportunity to function in various clinical settings under supervision of experienced occupational therapy practitioner. Promotes collaboration with the Occupational Therapist in planning/implementation of treatment programs with clients with a variety of diagnoses and ages. Strengthens complex skills, including critical thinking, required for entry-level of practice through the final of two successive fieldwork rotations in unique healthcare settings/institutions. Practicum: 5.0 credits (300 contact hours).

**Pre-requisite:** Admission to the Occupational Therapy Assistant Program or permission of instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**OTA 286 (2 credit hours)****Clinical Seminar**

Provides students an opportunity to share information from their clinical site with both the academic instructor and their classmates. Emphasizes application of information learned to other situations. Prepares students for National Board for Certification in Occupational Therapy (NBCOT) certification examination. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Admission to OTA program and permission of instructor.

**Co-requisite:** OTA 267 OR OTA 277.

**Attributes:** Technical

**Components:** LEC: Lecture

# Office Systems Technology (OST)

## OST 100 (1 credit hours)

### Keyboarding

Develops skill operating a keyboard by touch. Lab: 1.0 credit (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## OST 101 (3 credit hours)

### Keyboarding & Intro to Document Formatting

Develops skill in operating a keyboard by touch and to develop an introductory level of skill producing standard business documents using a word processing program with speed and accuracy. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 105 (3 credit hours)

### Introduction to Information Systems

Introduces students to computer concepts and terminology related to operating system, file management and cloud computing. Teaches basic competencies in searching, locating, and evaluating information on the Internet, using email and other online tools, and demonstrating responsible and ethical online and offline behavior. Teaches beginning skills in word processing electronic spreadsheets, presentations, databases and integration as well as how to keep up with emerging technologies and use computer skills to enhance quality of life and employability. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Digital Literacy, Course Also Offered in Modules

**Components:** LEC: Lecture

## OST 108 (3 credit hours)

### Editing Skills for Office Professionals

A hands-on approach to editing business documents. Applies proper placement and structure of business documents. Reviews principles of grammar, punctuation, vocabulary, spelling, word and number usage, and proofreading rules. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 109 (3 credit hours)

### Legal Terminology

Introduces the judicial system (discovery, trial, and appellate processes), civil law, criminal law, legal terminology and legal citations commonly used in the legal field. Includes terms and how to use them in legal context. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 110 (3 credit hours)

### Word Processing Applications

Provides experience in word processing including the mastery of touch typing with speed and accuracy using industry standard software. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** OST 101 or Consent of Instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## OST 112 (3 credit hours)

### Financial Management

Designed to teach students fundamental principles and concepts including: financial markets, futures, bonds, commodities, interest rates, and taxes. The primary emphasis is short and long term financial planning along with interpretation of financial information. Careers in the financial industry discussed. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

## OST 130 (3 credit hours)

### Typography

Introduces the principles of typography, type basics, type aesthetics, how to design with type, parameters of type and how they can be used to produce quality type. Utilizes advanced commands and pagination composition skills. Studies grids, file management and other options such as design standards with business publications. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 150 (3 credit hours)

### Transcription and Office Technology

Produce usable business documents from machine dictation using word processing software, with emphasis on spelling, punctuation, and grammar. Proofreading and editing applications stress the importance of accuracy and quality of document creation and production. Demonstration of office machines will be incorporated. Lecture: 3 hours (45 contact hours).

**Pre-requisite:** ENG 101 or Permission of Instructor and OST 110.

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 160 (3 credit hours)

### Records and Database Management

Presents aspects of the management of records from creation to disposal, using database software to create and edit files and prepare reports. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** OST 105.

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 210 (3 credit hours)

### Advanced Word Processing Applications

Uses advanced features of a current word processing software to format and produce documents utilized in an office. Lecture: 3.0 credit hours. (45 contact hours).

**Pre-requisite:** OST 110.

**Attributes:** Technical

**Components:** LEC: Lecture

## OST 213 (3 credit hours)

### Business Calculations for The Office Professional

Applies skills required for the performance of business tasks: use of numeric keypad to compute payroll, markup/markdown, purchases, loans, discounts, stock and bond transactions; and other business applications. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 215 (3 credit hours)****Office Procedures**

Studies the practices and procedures of current office concepts with emphasis given to the electronic office including: job application procedures, human relations in the office, business ethics, decision-making skills, travel and meeting arrangements, time and stress management, incoming/outgoing mail processes, and telephone procedures. Pre-requisite Or Lecture: 3 credits (45 contact hours).

**Co-requisite:** OST 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 220 (3 credit hours)****Administrative Office Simulations**

Applies administrative procedures office simulations to include organizing, communicating, scheduling, and analyzing. Emphasizes productivity, efficiency, accuracy, and problem solving. Uses technology to research information on the Internet and send and receive e-mail. Continues to develop speed and accuracy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** OST 210, OST 215, and OST 240, or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 221 (3 credit hours)****Legal Office Simulation**

Applies classroom experiences and skills in a simulated legal office environment. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** OST 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 225 (3 credit hours)****Introduction to Desktop Publishing**

Uses desktop publishing software to design and produce high resolution publications such as flyers, brochures, business forms, and newsletters. Introduces basic design techniques, type and graphics layout, and related terminology. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (OST 105 and OST 110) or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 235 (3 credit hours)****Business Communications Technology**

Presents aspects of communications technology used in the global business environment, including presentations software; a basic understanding of voice recognition software; planning and composition of written, oral, and electronic communications; grammar, punctuation, and spelling; and principles of proofreading, both manual and electronic. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** (ENG 101 or OST 108).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**OST 240 (3 credit hours)****Advanced Microsoft Applications**

Expands computer skills through the use of spreadsheet, database management, word processing, and presentation software for the integration of information. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 250 (3 credit hours)****Advanced Desktop Publishing**

Provides advanced techniques in electronic publishing design, layout, composition and paste-up. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** OST 225 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 255 (3 credit hours)****Introduction to Business Graphics**

Provides instruction in the process of image-editing including how to create original artwork, manipulate color, enhance artwork, graphics and retouch photographs and clipart used in desktop publishing programs. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** OST 105 or OST 225 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 272 (3 credit hours)****Presentation Graphics**

Uses industry standard software to create business presentations, business graphics, transparencies, and slides. Applies editing, formatting, page layout and design, and paste-up techniques for clarity and impact. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** OST 105.

**Attributes:** Technical

**Components:** LEC: Lecture

**OST 275 (3 credit hours)****Office Management**

Management principles and techniques and their applications to the modern business office are included. Emphasis is on information systems and the role of managerial personnel. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**OST 295 (1-3 credit hours)****Administrative Office Technology Internship**

Provides the opportunity to apply acquired occupational skills in a realistic setting, enhancing the transition from school to work. Requires approval of OST advisor. Laboratory: 1.0 - 3.0 credits (45-135 contact hours).

**Pre-requisite:** OST 210, OST 215, and OST 240, or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**OST 2101 (1 credit hours)****Advanced Formatting and Tools**

Uses advanced formatting features and Word Processing Tools of a current word processing software. Lecture: 1 credit (15 contact hours)

**Pre-requisite:** OST 110.

**Components:** LEC: Lecture

**OST 2102 (1 credit hours)****Print and File Management**

Uses advanced features of a current word processing software to manage file management, printing, and editing. Lecture 1 credit (15 contact hours).

**Pre-requisite:** OST 2101 or Consent of Instructor.

**Components:** LEC: Lecture



**OST 2103 (1 credit hours)****Advanced Word Processing Tools**

Uses advanced features of a current word processing software to format tables, insert graphics and clipart, and forms. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** OST 2102 or Consent of Instructor.

**Components:** LEC: Lecture

## Orthotics and Prosthetics Technology (ORP)

**ORP 100 (2 credit hours)****Introduction to Orthotics and Prosthetics**

Introduces students to the profession of orthotics and prosthetics. Emphasizes professional practice, the role of the technician and career opportunities. Introduces students to basic mechanical skills and knowledge via laboratory project to determine if orthotics and prosthetics is a career path they would like to follow. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 101 (3 credit hours)****Lower Extremity Orthotics I**

Provides the knowledge and skills necessary to fabricate foot orthosis inserts, perform orthopedic shoe modification, and fabricate foot orthoses/prostheses below or at the ankle joint. Integrates study of foot and ankle skeletal structures and biomechanical principles of foot orthoses and partial foot prostheses. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Technician program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 102 (3 credit hours)****Spinal Orthotics**

Provides students with the knowledge and skills necessary to fabricate plastic and metal spinal orthoses. Introduces topics such as spinal skeletal structure, biomechanical principles of spinal orthoses, interpretation and application of spinal orthometry, variations of spinal orthoses and fitting of off-the-shelf spinal orthoses for the fitter level practitioner. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Technician program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 103 (4 credit hours)****Lower Extremity Orthotics II**

Provides the knowledge and skills necessary to fabricate plastic and metal ankle-foot orthoses. Examines foot and ankle skeletal structures and biomechanical principles of ankle foot orthoses. Interprets and applies ankle-foot orthometry, reviews variation of ankle-foot orthoses and examines fitting of off the shelf lower limb orthoses. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100, ORP 101, and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 104 (3 credit hours)****Lower Extremity Orthotics III**

Provides the knowledge and skills necessary to fabricate plastic and metal knee-ankle-foot orthoses. Integrates study of foot, ankle and knee skeletal structures and biomechanical principles of knee-ankle-foot orthoses. Interprets and applies knee-ankle-foot orthometry, reviews variations of knee-ankle-foot orthoses and examines fitting of off-the-shelf knee orthoses. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100, ORP 103, and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 105 (3 credit hours)****Upper Extremity Orthotics**

Provides the knowledge and skills necessary to fabricate plastic and metal upper extremity orthoses. Integrates study of upper extremity skeletal structures and biomechanical principles of upper extremity orthoses, interprets and applies upper extremity orthometry, reviews variation of upper extremity orthoses and fracture orthoses, and examines fitting of off-the-shelf upper extremity orthoses. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 106 (3 credit hours)****Orthotic and Prosthetic Skill Development**

Provides the necessary skills to perform basic technological processes within the profession of orthotics and prosthetics. Emphasizes basic skills such as plaster work, plastic fabrication including thermosetting and thermoformed, introduces concepts of metal contouring, leather working including sewing concepts, and finishing skills. Reviews vertical fixture, shoe machines, routers and various other machines and tools specific to orthotics and prosthetics. Reviews laboratory safety and material safety. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 107 (2 credit hours)****Orthotic Prosthetic Biomaterials**

Provides the necessary knowledge of materials utilized in prosthetic and orthotic fabrication. Emphasizes characteristics of materials and their application in fabrication techniques utilized in the orthotic prosthetic laboratory. Introduces use of sheet plastics and thermosetting plastics for various layups and fibers. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 108 (2 credit hours)****Introduction to Orthotics and Prosthetics**

Provides the student with the knowledge and skills to design a safe and efficient prosthetic orthotic laboratory. Reviews the process of managing the areas of orthotic and prosthetic practice including administrative documentation. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 195 (4 credit hours)****Clinical Experience I**

Familiarizes students with the profession of orthotics and prosthetics by applying knowledge and skills in the work setting. Emphasizes work experience with the fabrication of orthoses and /or prostheses while practitioners in the field mentor students as they perform required tasks described in the clinical affiliation agreement. Clinical: 4 credits (120 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** CLN: Clinical

**ORP 200 (4 credit hours)****Transibial Prosthetics**

Provides students with the knowledge and skills necessary to fabricate transibial prostheses. Introduces impression procedures, interface materials, foot and ankle mechanisms, alignment and transibial design variations. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 201 (4 credit hours)****Transfemoral Prosthetics**

Provides students with the knowledge and skills necessary to fabricate transfemoral prostheses. Introduces impression procedures, interface materials, foot and ankle mechanisms, alignment and transfemoral design variations. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 202 (4 credit hours)****Transradial and Transhumeral Prosthetics**

Provides students with the knowledge and skills necessary to fabricate transradial and transhumeral prostheses. Introduces impression procedures, interface materials, cable systems, alignment and variations of transradial and transhumeral prostheses. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 203 (3 credit hours)****Advanced Techniques**

Familiarizes students with current technology developments in the field of orthotics and prosthetics. Reviews computer-aided design and manufacturing, advanced component and material design, pathologic gait deviations and technology solutions as well as patient outcome measurement tests. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** ORP 100 and admission to the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**ORP 295 (4 credit hours)****Clinical Experience II**

Reinforces student familiarity with the profession of orthotics and prosthetics by applying knowledge and skills in the work setting. Develops additional work experience with the fabrication of orthoses and /or prostheses as students are mentored by practitioners in the field to perform required tasks as described in the clinical affiliation agreement. Clinical: 4 credits (120 contact hours).

**Pre-requisite:** ORP 100, ORP 195, and in good standing in the Orthotics and Prosthetics Program.

**Attributes:** Technical

**Components:** CLN: Clinical

## Paralegal Technology (PGL)

**PGL 111 (3 credit hours)****Legal Systems and Terminology**

Provides an overview of major principles and functions of the state and federal legal systems, introduces various legal fields for professional opportunities, presents legal vocabulary, gives an overview of different areas of law, and presents ethics. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101, demonstration of Digital Literacy, and placement scores for reading OR completion of transitional reading courses OR instructor consent.

**Co-requisite:** PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 112 (3 credit hours)****Legal Research**

Introduces the basic sources of law and methods of legal research, including ethics. Lecture: 3 credits (45 contact hour).

**Pre-requisite:** ENG 101, a computer/digital literacy course (CIT or other qualifying course) and placement scores for college level reading OR completion of Transitional reading courses or instructor consent.

**Co-requisite:** PGL 111.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 113 (3 credit hours)****Law Office Management**

Provides practical application of daily legal office skills needed in the legal field, professional enrichment presentations, history of the profession, professional ethics through fact analysis, and an overview of law office management. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101, demonstration of Digital Literacy, and placement scores for reading OR completion of transitional reading courses OR instructor consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 211 (3 credit hours)****Family Law**

Examines the areas of law pertaining to domestic relations, emphasizing ethics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 212 (3 credit hours)****Legal Writing**

Includes composition of legal communications, briefs, memoranda, and other legal documents, with an emphasis on ethical considerations.

Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 213 (3 credit hours)****Civil Litigation I**

Presents the litigation process and emphasizes the structure of the court systems. Includes gathering information and evidence, summarizing and arranging materials, maintaining docket and file control, developing a litigation case, and interviewing clients and witnesses, using ethical standards. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 214 (3 credit hours)****Real Property I**

Introduces real property law including ownership, transfer of property, liens and encumbrances, and the various types of deeds. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 221 (3 credit hours)****Wills and Estates**

Introduces the laws of inheritance and estates, basic concepts of estates and wills, probate procedures, and preparation of documents while emphasizing ethics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 223 (3 credit hours)****Civil Litigation II**

Continues the study of the litigation process from discovery through appeal. Emphasizes collecting and organizing discovery materials and demonstrating knowledge of the limits placed on discovery by the federal and state rules of civil procedure. Includes the trial and appeal phases of litigation, with emphasis on trial preparation and appellate procedure. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 213.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 224 (3 credit hours)****Real Property II**

Examines legal documents related to real property as recorded in the clerk's office, the tax assessor's office, and the circuit clerk's office. Includes compiling a title abstract and completing an assignment to prepare a real estate file from transaction through closing and post-closing, implementing ethics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 214.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 231 (3 credit hours)****Torts**

Provides instruction in the area of law that deals with civil wrongs and injuries, including intentional wrongs, negligence, and strict liability. Concentrates on the elements of a tort, type of tort, damages, ethics, and remedies. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 233 (3 credit hours)****Ethics**

Provides an overview of the various sources of ethics law and rules, along with the essentials of how and why a legal professional must report misconduct. Explores the types of discipline an ethical lapse may trigger, such as sanctions, disqualification, civil and criminal liability, and what it means to be engaged in the "unauthorized practice of law." Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PGL 111 and PGL 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 235 (1 credit hours)****Paralegal Technology Capstone**

Serves as the capstone course for the Paralegal Technology degree program. Integrates prior learning outcomes into a single integrated learning experience. Includes preparation for and completion of an exit exam that all program graduates must complete. Must be taken during the last semester of the Paralegal Technology program. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** Consent of Program Coordinator.

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 240 (3 credit hours)****Legal Technology**

Provides an introduction to current database and software programs for use in law offices. Covers basic use of law office management and billing, document management and formation, and presentation software. Requires completion of a paralegal certificate or degree or 6 months experience working under the supervision of an attorney. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 245 (3 credit hours)****Electronic Discovery in the Legal Environment**

Provides an overview of electronic discovery, electronic discovery tools and procedures, management and organization of documentation, litigation, and presentation. Requires completion of a paralegal certificate or degree or 6 months experience working under the supervision of an attorney. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PGL 250 (3 credit hours)****Legal Nurse Consultant**

Prepares registered nursing professionals to assume the role of a trained legal nurse consultant. Provides a comprehensive analysis of the principles and practices of legal nurse consulting with an emphasis on law and expert witness testimony. Provides the nurse with fundamental skills necessary to review medical legal cases, and advise law firms, health care providers, insurance companies and other professional organizations regarding medical related issues. Presents fundamental skills necessary to appear in court as an expert witness. Provides the nurse with practical skills and legal knowledge necessary to function in the legal community and in the greater community as a consultant. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Current license as a registered nurse.

**Attributes:** Technical

**Components:** LEC: Lecture

## Paramedic/Allied Health (EMS)

**EMS 105 (6 credit hours)****Emergency Medical Technician - EMT**

Provides the first level of training in the career structure of Emergency Medical Services. Integrates didactic course material and the lab component necessary for the delivery of entry level emergency medical care to individuals who are experiencing a disruption in normal body functions due to illness and/or injury and require intervention to prevent morbidity and mortality. Prepares the student to sit for the National Registry EMT examination that is required for Kentucky certification as an EMT. Focuses on basic anatomy and physiology, scene and patient assessment, airway and ventilation, cardiovascular and body systems support, motion limiting devices, wound and fracture management, administration of basic patient medications, extrication, transportation, and patient monitoring as well as medico-legal aspects and ambulance operations. Includes a minimum twenty-four (24) hour clinical observation in the emergency department and/or on a state licensed ambulance service. Lecture/Lab: 6.0 credits (150 contact hours).

**Pre-requisite:** Minimum ACT Reading Score of 15 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 120 (4 credit hours)****Seminar in Advanced Emergency Medical Technician - AEMT**

Functions as part of a comprehensive EMS response, community, health, or public safety system with medical oversight and is an important link from the scene into the healthcare system. Prepares students to perform interventions with the basic and advanced equipment typically found on an ambulance, including performance of focused advanced skills and pharmacological interventions that are engineered to mitigate specific life-threatening conditions, medical, and psychological conditions. Focuses on a targeted set of skills beyond the level of the EMT. Lecture: 4 credit hours (60 contact hours).

**Pre-requisite:** EMS 105 or FIR 230 or current unrestricted certification or validated National Registry status as EMT eligible and concurrent enrollment in EMS 121.

**Co-requisite:** EMS 121.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 121 (2 credit hours)****Advanced Emergency Medical Technician (AEMT) Laboratory Skills**

Encourages both an individual and group approach to simulated patient care in the laboratory setting. Includes fundamental and advanced skill sets such as patient assessment, airway and ventilatory maintenance, IV/IO access and fluid administration, medication administration, medical, cardiovascular and trauma patient management across the lifespan. Pre-Requisite or Laboratory: 2 credit hours (90 contact hours).

**Co-requisite:** EMS 120.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 125 (3 credit hours)****Advanced EMT Clinical Experience**

Provides the opportunity for application of didactic knowledge, psychomotor skills, and laboratory instruction with the realities of patient care in the hospital setting. Requires supervision by a Registered Nurse, Nurse Practitioner, Physician, or Paramedic Preceptor in an environment that represents both an instructional and evaluative phase of the Advanced Emergency Medical Technician (AEMT) curriculum with a focus on the emergency department and respiratory care. Clinical: 3 credit hours (135 contact hours).

**Pre-requisite:** Successful completion of EMS 120 and EMS 121.

**Attributes:** Technical

**Components:** CLN: Clinical

**EMS 130 (3 credit hours)****Advanced Emergency Medical Technician (AEMT) Field Experience**

Provides the opportunity for application of didactic knowledge, psychomotor skills, and clinical instruction with the realities of being a team member and team leader delivering advanced patient care in the field setting. Requires supervision by a Paramedic preceptor in an environment that represents both an instructional phase and evaluative phase of the Advanced Emergency Medical Technician (AEMT) program. Laboratory: 1 credit hour (45 contact hours). Practicum: 2 credit hours (180 contact hours).

**Pre-requisite:** Successful completion of EMS 120, EMS 121, and EMS 125.

**Attributes:** Technical

**Components:** LAB: Laboratory, PCM: Practicum

**EMS 150 (5 credit hours)****Electrocardiogram Technology**

Designed for students wanting to work in doctor's offices, hospitals, cardiac clinics, or anywhere electrocardiograms need to be performed. Integrates comprehensive knowledge of the anatomy of the heart including conduction pathways, circulatory system, and mechanical function. Presents the medical terminology, pathophysiology related to cardiac crisis, arrhythmia recognition and 12-lead interpretation. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (45 contact hours). Clinical: 1.0 credit (45 contact hours).

**Pre-requisite:** Reading, English, and Mathematics assessment exam scores above KCTCS developmental level or successful completion of the prescribed developmental courses.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture



**EMS 200 (4 credit hours)****Introduction to Paramedicine**

Integrates comprehensive knowledge of EMS Systems including: safety and wellness, communications, medical/legal issues, life span parameters, public health, medical terminology, pathophysiology, anatomy and physiology, critical thinking, and physical assessment and research to improve the health and well-being of individuals. AHS 115 or CLA 131 Or Consent of Instructor. BIO 135 Or Consent of Instructor. Lecture: 4,0 credits (60 contact hours).

**Pre-requisite:** EMS 105 or FRS 2061 or current unrestricted state certification or validated National Registry status as EMT eligible and Program Admission.

**Co-requisite:** EMS 211.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 201 (6 credit hours)****Principles of Paramedicine I**

Incorporates aspects of EMS Systems, safety and wellness, communications, medical/legal issues, life span parameters, public health, medical terminology, pathophysiology, physical assessment, and research. Introduces students to the paramedics role and responsibilities of medication administration and the basic principles of pharmacology. Lecture: 6 credit hours (90 contact hours).

**Pre-requisite:** FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible, and Program Admission OR consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 202 (5 credit hours)****Principles of Paramedicine II**

Incorporates all aspects of medical emergencies including anatomy, physiology, and pathophysiologies. Covers medical emergencies involving the respiratory system, nervous system, abdominal and gastrointestinal tracts, genitourinary and renal systems, gynecology, musculoskeletal system, eyes, ears, nose, throat, immunology, infectious diseases, the endocrine system, psychiatric conditions, toxicology, and hematology. Lecture: 5 contact hours (75 contact hours).

**Pre-requisite:** FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 203 (1 credit hours)****Practicum I-Clinical**

Applies didactic and skills knowledge to the patient care in a hospital. Supervised by a registered nurse, nurse practitioner, physician, or paramedic preceptor in an environment that includes an instructional and evaluative phase. EMS 203 Practicum I and EMS 206 Practicum II are interchangeable with the second course building on the first course. Clinical 1 credit hour (45 contact hours).

**Pre-requisite:** FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**EMS 204 (2 credit hours)****Paramedic Lab I**

Provides fundamental skills in a lab setting. Apply skills to simulated patients. Covers a multitude of skills, including assessment and airway. Labs are interchangeable between EMS 204 Paramedic Lab I, EMS 207 Paramedic Lab II, and EMS 210 Paramedic Lab III and builds on knowledge of the previous. Laboratory: 2 credit hours (60 contact hours).

**Pre-requisite:** FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 205 (6 credit hours)****Principles of Paramedicine III**

Includes a study of cardiovascular emergencies, anatomy and physiology, pathophysiology, cardiac interventions, arrhythmia recognition, and 12-lead ECG for field diagnosis, as well as pharmacological and electrical interventions. Provides knowledge to assess and manage sick patients across the human life span including obstetrics, neonatology, pediatrics, geriatrics, and special challenge topics. Lecture: 6 credits (90 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 206 (3 credit hours)****Practicum II-Clinical**

Applies didactic and skills knowledge to the patient care in a hospital. Supervised by a registered nurse, nurse practitioner, physician, or paramedic preceptor in an environment that includes an instructional and evaluative phase. EMS 203 Practicum I and EMS 206 Practicum II are interchangeable with the second course building on the first course. Clinical: 3 credits (135 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**EMS 207 (1 credit hours)****Paramedic Lab II**

Provides fundamental skills in a lab setting. Students are able to apply skills to simulated patients. A multitude of skills are covered including assessment and airway. Labs are interchangeable between EMS 204 Paramedic Lab I, EMS 207 Paramedic Lab II, and EMS 209 Paramedic Lab III and builds on knowledge of the previous.

**Pre-requisite:** Emergency Medical Technician or consent of instructor  
Laboratory: 1 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 208 (6 credit hours)****Principles of Paramedicine IV**

Provides concepts for of out-of-hospital assessment, treatment, and field management of the trauma patient. Includes knowledge to manage disasters, multi-casualty incidents and rescue situations, utilize air medical resources, identify hazardous materials, perform vehicle extrication, and minimize the associated risks related to terrorism. Lecture: 6 credits (90 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**EMS 209 (2 credit hours)****Paramedic Lab III**

Provides fundamental skills in a lab setting. Student are able to apply skills to simulated patients. A multitude of skills are covered including assessment and airway. Labs are interchangeable between EMS 204 Paramedic Lab I, EMS 207 Paramedic Lab II, and EMS 209 Paramedic Lab III and builds on knowledge of the previous. Lab: 2 credits (60 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 210 (3 credit hours)****Emergency Pharmacology**

Introduces students to the paramedic's role and responsibilities of medication administration and the basic principles of pharmacology. Presents introductory core concepts of pharmacology including drug regulations, classifications, schedules, categories, delivery systems, calculations, and drug administration. Covers core concepts of emergency clinical pharmacology including major body systems, illness and injury, and methods drugs are used therapeutically to manage affected individuals. Integrates appropriate anatomy and physiology, medical terminology, and ethical and legal behaviors. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EMS 200.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 211 (2 credit hours)****Fundamentals Lab**

Encourages both an individual and group approach to simulated patient care in the laboratory setting. Includes fundamental skill sets such as patient assessment, airway and ventilation, and IV and fluid therapy. Lab: 2.0 credits (90 contact hours).

**Co-requisite:** EMS 200.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 212 (4 credit hours)****Practicum III-Field**

Applies advanced didactic knowledge, psychomotor skills, and clinical instruction in the EMS field setting. Supervised by a paramedic preceptor in an environment that is instructional and evaluative. Practicum: 4 credits (360 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**EMS 213 (2 credit hours)****Principles of Paramedicine V**

Provides the opportunity for application and review of didactic knowledge and psychomotor skills in preparation for psychomotor and cognitive testing. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 214 (6 credit hours)****Paramedic Theory for Registered Nurses (RNs)**

Provides the Registered Nurse with specialized knowledge and skills necessary to assess and manage ill and/or injured patients in the pre-hospital setting. Areas of specialized instruction include: pre-hospital environments, preparatory skills, airway management, patient assessment, trauma and medical patient management, obstetrical/gynecological conditions, pediatric and neonatal care, psychiatric and behavioral emergencies, and special considerations. Lecture/Lab: 6.0 credits (120 contact hours).

**Pre-requisite:** Must be a registered nurse and EMT.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 215 (1 credit hours)****Clinical Experience I**

Applies didactic knowledge, psychomotor skills, and laboratory instruction with the realities of patient care in the hospital and field setting. Includes supervision by a registered nurse, nurse practitioner, physician, or paramedic preceptor in an environment that represents both an instructional and evaluative phase of the program focusing on the ambulance and field setting and the emergency department. Clinical: 1.0 credit (60 contact hours).

**Pre-requisite:** EMS 211.

**Attributes:** Technical

**Components:** CLN: Clinical

**EMS 220 (3 credit hours)****Cardiovascular Emergencies**

Provides a detailed study of cardiovascular emergencies and the assessment and management of patients requiring critical intervention. Includes anatomy and physiology, medical terminology, pathophysiology related to cardiac crisis, arrhythmia recognition and 12-lead ECG for field diagnosis, as well as pharmacological and electrical interventions. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EMS 210 and EMS 211.

**Co-requisite:** EMS 221.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 221 (1 credit hours)****Cardiac and Trauma Lab**

Designed to encourage both an individual and group approach to simulated patient care in the laboratory setting. Includes fundamental skill sets and the addition of cardiovascular and trauma emergency patient care and management. Lab: 1.0 credit (45 contact hours).

**Co-requisite:** EMS 220 and EMS 230.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 225 (1 credit hours)****Clinical Experience II**

Provides the opportunity for application of didactic knowledge, psychomotor skills, and laboratory instruction with the realities of patient care in the hospital setting. Supervised by a registered nurse, nurse practitioner, physician, or paramedic preceptor in an environment that represents both an instructional and evaluative phase of the program with a focus on the emergency department, operating room, and respiratory care. Clinical: 1.0 credit (60 contact hours).

**Pre-requisite:** EMS 215.

**Attributes:** Technical

**Components:** CLN: Clinical

**EMS 230 (4 credit hours)****Traumatic Emergencies**

Presents the advanced concepts of out-of-hospital trauma care and critical thinking activities leading to formulation of a field impression and implementation of an appropriate treatment plan and scene management. Includes the kinematics of trauma, assessment, resuscitation, management, monitoring, and transportation of trauma patients across the life span. Lecture: 4.0 credits (60 contact hours).

**Co-requisite:** EMS 221.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 231 (1 credit hours)****Medical Lab**

Designed to encourage both an individual and group approach to simulated patient care in the laboratory setting. Includes fundamental skill sets with a focus on application to medical emergencies. Lab: 1.0 credit (45 contact hours).

**Co-requisite:** EMS 240 and EMS 250.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 235 (2 credit hours)****Clinical Experience III**

Provides the opportunity for application of didactic knowledge, psychomotor skills, and laboratory instruction with the realities of patient care in the hospital setting. Supervised by a registered nurse, nurse practitioner, physician, or paramedic preceptor in an environment that represents both an instructional and evaluative phase of the program focusing on the emergency department, obstetric unit, mental health facility, and pediatric units. Clinical: 2.0 credits (120 contact hours).

**Pre-requisite:** EMS 225.

**Attributes:** Technical

**Components:** CLN: Clinical

**EMS 240 (3 credit hours)****Medical Emergencies I**

Provides an understanding of the anatomic structures, physiology, and pathophysiology encountered during assessment and the provision of care for medical emergencies involving the respiratory system, nervous system, abdominal and gastrointestinal tracts, genitourinary and renal systems, gynecology, musculoskeletal system, and the eyes, ears, nose, and throat. Lecture: 3.0 credits (45 contact hours).

**Co-requisite:** EMS 231.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 250 (3 credit hours)****Medical Emergencies II**

Provides an understanding of the anatomic structures, physiology, and pathophysiologies encountered during assessment and the provision of care for medical emergencies encompassing immunology, infectious disease including HIV/AIDS, the endocrine system, psychiatric conditions, toxicology, and hematology. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EMS 240.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 260 (3 credit hours)****Special Populations**

Provides the opportunity to develop special knowledge and skills necessary to assess and manage ill and or injured patients across the human life span. Focuses on the acquisition of clinical knowledge and skills in diverse populations that include obstetrics, neonatology, pediatrics, geriatrics, and special challenge topics. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** EMS 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 270 (1 credit hours)****EMS Operations**

Provides knowledge necessary to safely manage multi-casualty incidents and rescue situations, utilize air medical resources, identify hazardous materials, perform vehicle extrication, and minimize the associated risks related to terrorism and disaster. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**EMS 275 (1 credit hours)****Seminar in Advanced Life Support (ALS)**

Presents a comprehensive course encompassing advanced cardiac life support and pediatric advanced life support, or trauma life support, or other seminar course in relative subject matter such as medical emergencies or geriatric emergencies, to enhance the knowledge and skills acquired in the paramedic program. Addresses immediate life threatening conditions and critical interventions in a case study-scenario format where principles of assessment and intervention are applied in a team setting. Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** EMS 225.

**Attributes:** Technical

**Components:** LAB: Laboratory

**EMS 285 (5-6 credit hours)****Field Internship & Summation**

Provides the opportunity for application of didactic knowledge, psychomotor skills, and clinical instruction with the realities of being the team leader delivering advanced patient care in the field setting. Supervised by a paramedic preceptor in an environment that represents both an instructional and evaluative phase of the program. Included is the summative phase of the Field Internship. Lab: 1.0 credit (45 contact hours). Practicum: 4.0 - 5.0 credits (360- 450 contact hours).

**Pre- or co-requisite:** EMS 275.

**Attributes:** Technical

**Components:** LAB: Laboratory, PCM: Practicum

**EMS 2081 (4 credit hours)****Principles of Paramedicine IV Part I**

Provides concepts for of out-of-hospital assessment, treatment, and field management of the trauma patient. Because EMS 2081 and EMS 2082 are interchangeable, this course can be taken before or after EMS2082. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Components:** LEC: Lecture

**EMS 2082 (2 credit hours)****Principles of Paramedicine IV Part 2**

Provides concepts for managing disasters, multi-casualty incidents and rescue situations, utilize air medical resources, identify hazardous materials, perform vehicle extrication, and minimize the associated risks related to terrorism. Because EMS 2081 and EMS 2082 are interchangeable, this course can be taken before or after EMS2081. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** Emergency Medical Technician or consent of instructor.

**Components:** LEC: Lecture

**EMS 2851 (3 credit hours)****Field Internship I**

Provides the opportunity for application of didactic knowledge, psychomotor skills, and clinical instruction with the realities of being the team leader delivering advanced patient care in the field setting. Supervised by a paramedic preceptor in an environment that represents both an instructional and evaluative phase of the program. Included is the summative phase of the Field Internship. Pre-requisite OR Practicum: 3.0 credits (270 contact hours).

**Co-requisite:** EMS 275.

**Components:** PCM: Practicum

**EMS 2852 (2-3 credit hours)****Field Internship II**

Provides the opportunity for continued application of didactic knowledge, psychomotor skills, and clinical instruction with the realities of being the team leader delivering advanced patient care in the field setting. Supervised by a paramedic preceptor in an environment that represents both an instructional and evaluative phase of the program. Included is the summative phase of the Field Internship. Pre-requisite OR Laboratory: 1.0 credit (45 contact hours). Practicum 2.0 credits (180 contact hours).

**Co-requisite:** EMS 2851.

**Components:** LAB: Laboratory, PCM: Practicum

## Pharmacy (PHA)

**PHA 110 (6 credit hours)****Pharmacy Procedures and Skills**

Introduces the field of pharmacy technology in various pharmacy settings. Includes content on legal requirements and responsibilities of pharmacy technician as they assist the pharmacist. Topics discussed will include professional communication and customer service, Patient Care Process, safety issues, and the basic skills of a pharmacy technician. Students will use a variety of interpersonal skills and self-management skills to produce a final product from a medication order, or prescription, following safe handling and preparation guidelines as set forth by governmental agencies. Lecture: 4 credits (60 contact hours). Lab: 2 credits (90 contact hours).

**Pre- or co-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**PHA 136 (3 credit hours)****Pharmacology I**

Introduce the study of drugs and their effect on the human body. Demonstrate basic knowledge of anatomy, physiology, pharmacology, and medical terminology relevant to the pharmacy technician's role. Explain the use and side effects of prescription and non-prescription medications and alternative therapies. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHA 146 (3 credit hours)****Pharmaceutical Calculations**

Provides review of basic math and introduction of knowledge to perform mathematical calculations essential to the duties of pharmacy technicians in a variety of settings. Promotes critical thinking of using pharmaceutical calculations skills to solve application problems accurately and efficiently. Prepares students and pharmacy technicians to solve calculation problems on the Pharmacy Technician Certification Exam (PTCE) through lecture and hands on activities. Lecture: 3 credits (45 credit hours).

**Pre-requisite:** Math ACT 16 or equivalent and instructor consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHA 150 (3 credit hours)****Pharmacy Experience 1**

Provides entry-level work experience in the pharmacy setting to enhance skills required to reach occupational goals for the pharmacy technician. Clinical: 3 credits (180 contact hours).

**Pre- or co-requisite:** PHA 110, PHA 146, PHA 136.

**Attributes:** Technical

**Components:** CLN: Clinical

**PHA 200 (3 credit hours)****Admixtures for IV Therapy**

Introduces the field of pharmacy technology in various pharmacy settings. Includes content on legal requirements and responsibilities of pharmacy technician as they assist the pharmacist. Topics discussed will include professional communication and customer service, Patient Care Process, safety issues, and the basic skills of a pharmacy technician. Students will use a variety of interpersonal skills and self-management skills to produce a final product from a medication order, or prescription, following safe handling and preparation guidelines as set forth by governmental agencies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PHA 110, PHA 146, PHA 136.

**Co-requisite:** PHA 205, PHA 240, PHA 236.

**Pre- or co-requisite:** PHA 250.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHA 205 (1 credit hours)****Admixture Preparations**

Provides simulation in aseptic technique and sterile compounding, including the use of equipment, application of laws and standards relating to sterile compounding, and preparation of sterile products such as IVs, chemotherapy, immunizations, and parenteral nutrition. Lab: 1 credit (45 contact hours).

**Pre-requisite:** PHA 110, PHA 136, PHA 146.

**Co-requisite:** PHA 200, PHA 236, PHA 240.

**Pre- or co-requisite:** PHA 150.

**Attributes:** Technical

**Components:** LAB: Laboratory



**PHA 236 (3 credit hours)****Pharmacology 2**

Expands upon knowledge introduced in PHA 136. Introduces hospital-specific medications, their dosage forms, adverse effects and preparation instructions. Examines the process of clinical trials and investigational drugs. Enhances knowledge of drug safety, including pediatric and geriatric populations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PHA 110, PHA 146, PHA 136.

**Co-requisite:** PHA 200, PHA 205, PHA 240.

**Pre- or co-requisite:** PHA 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHA 240 (3 credit hours)****Pharmacy Technician Career Planning**

Prepares students for pharmacy technology careers. Focuses on pharmacy technician roles, pharmacy settings, networking, employment options, resume preparation, interviewing skills, performance reviews and evaluations, supervisory management skills, and other relevant soft skills. Includes learning the role of continuing education and the various organizations that offer, monitor, and require continuing education. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PHA 110, PHA 146, PHA 136.

**Pre- or co-requisite:** PHA 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHA 251 (3 credit hours)****Pharmacy Experience II**

Provides advanced-level work experience in the pharmacy setting to enhance skills required to reach occupational goals for the advanced-level pharmacy technician. Clinical: 3 credits (180 contact hours).

**Pre-requisite:** PHA 110, PHA 136, PHA 146, PHA 150 or Instructor Consent.

**Pre- or co-requisite:** PHA 200, PHA 205, PHA 236, PHA 240.

**Attributes:** Technical

**Components:** CLN: Clinical

## Philosophy (PHI)

**PHI 100 (3 credit hours)****Introduction to Philosophy: Knowledge and Reality**

Introduces students to philosophical studies with emphasis on issues of knowing, reality, and meaning related to human existence. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 110 (3 credit hours)****Medical Ethics**

Introduces examination and application of major ethical theories to specific moral questions related to health care. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 120 (3 credit hours)****Introductory Logic**

Covers argumentation, syllogistic and sentential logic. Focuses on the use of formal methods in the construction and criticism of actual arguments, the aim being to inculcate standards of good reasoning, e.g., clarity, consistency, and validity. Lecture: 3.0 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 130 (3 credit hours)****Ethics**

Introduces students to a critical examination of philosophical principles related to moral action and political values. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 140 (3 credit hours)****The Ethics of War and Peace**

Ethical reasoning and application of ethical theories to moral issues connected to war and peace. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 150 (3 credit hours)****Business Ethics**

Presents ethical theories and techniques of moral reasoning used to analyze moral issues in business. Applies ethics and reasoning to current issues of management, employees, government, public safety, and the environment. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 160 (3 credit hours)****Philosophy Through Pop Culture**

Surveys major philosophical themes, such as value, morality, evil, friendship, beauty, God, reality, and the meaning of life, and applies these themes to an examination of how they are represented in several sources of popular culture, including literature, film, art, music, media, and stage. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 170 (3 credit hours)****Philosophy of Religion**

Introduces students to issues in philosophy of religion including defining the concept of God, arguments for and against the existence of God, the relation between faith and reason, the nature of religious experience, the problem of evil, and immortality. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities, Other

**Components:** LEC: Lecture

**PHI 180 (3 credit hours)****Animal and Environmental Ethics**

Presents ethical theories and techniques of moral reasoning used to analyze moral issues as they relate to animals and the environment. Applies ethical reasoning to current issues, such as sustainability, research, farming, hunting, future generations, and value. Lecture: 3.0 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Other

**Components:** LEC: Lecture

**PHI 200 (3 credit hours)****Professional Responsibility**

Assess the proper role of ethics within different professional settings, examining different professional codes of ethics and approaches to leadership and professionalism. Examine the nature of the professional's client relationship, recurring moral dilemmas, and the role of professionals in society. Develop a professional portfolio and practical professional skills. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Other

**Components:** LEC: Lecture

**PHI 250 (3 credit hours)****Symbolic Logic**

Introduces students to the methods of formal deductive logic with emphasis upon applications to mathematics, computer science, and/or legal reasoning. Covers the language and rules of formal logic as well as techniques of formal proof. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Math placement scores at or above benchmark OR KCTCS math placement exam recommendation OR Successful completion of transitional math coursework OR Concurrent enrollment in PHI250-S.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**PHI 250S (1-2 credit hours)****Co-Requisite Remediation for Symbolic Logic**

Provides supplementary instruction for students who do not meet college readiness standards for PHI 250. Covers content necessary for success in PHI 250 as needed. Lecture: 1-2 credits (15-30 contact hours).

**Co-requisite:** PHI 250.

**Attributes:** Other

**Components:** LEC: Lecture

**PHI 260 (3 credit hours)****History of Philosophy I: From Greek Beginnings to the Middle Ages**

Provides an introductory study of the development of Western philosophy from ancient through late medieval times, including the development of fields such as logic, metaphysics, epistemology, and ethics. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 270 (3 credit hours)****History of Philosophy II: From the Renaissance to the Present Era**

Provides an introductory study of the development of Western philosophy from early modern through contemporary times, including the development of fields such as metaphysics, analytic and continental philosophy, and ethics. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ENG 101.

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**PHI 299 (3 credit hours)****Special Topics in Philosophy: Topic**

Examines special topics in philosophy. Includes, but not limited to, individual philosophers, movements, writings, traditions, and selected eras. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

## Phlebotomy (PHB)

**PHB 100 (6 credit hours)****Phlebotomy**

Prepares the student as an integral member of the health-care team to collect blood from patients/donors in hospitals, blood banks or clinics for analysis or other medical purposes. Includes standard precautions, record keeping, and therapeutic communication skills. Lecture/Lab: 6.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PHB 151 (1 credit hours)****Phlebotomy for the Health Care Worker**

Covers fundamental techniques in proper venipuncture and capillary collection. Includes a study of medical ethics, laboratory terminology, anatomy and physiology of the circulatory system, communication and record keeping, specimen processing, laboratory safety, isolation procedures and special collection. Lecture/Lab: 1.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PHB 152 (1 credit hours)****Phlebotomy: Clinical Experience**

Introduces the student to clinical practice in the phlebotomy department of a laboratory. The student will begin to develop performance skills in routine venipuncture and capillary collection procedures emphasizing performance skills in routine venipuncture and capillary collection procedures. Pre-requisite Or Laboratory: 1.0 credit (30 contact hours).

**Co-requisite:** PHB 151, PHB 170 or MAI 120.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PHB 153 (4 credit hours)****Advanced Topics in Phlebotomy**

Prepares the student as an integral member of the health-care team. One who collects blood from patients/donors in hospitals, blood banks or clinics for analysis or other medical purposes. Practices standard precautions, record keeping, vital signs and therapeutic communication skills. Lecture: 4.0 credits (60 contact hours).

**Pre-requisite:** PHB 151 Phlebotomy for the Healthcare Worker.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHB 155 (2-3 credit hours)****Phlebotomy Clinical**

Builds on the knowledge acquired in lecture and lab, this course will allow students to use external institutions for clinical experience to become more proficient in the performance of routine venipuncture and dermal collections. Provides the experience needed to handle routine venipuncture complications and the skills necessary to adequately perform the duties of a phlebotomist. Lecture/Lab: 2 - 3 credits (120 - 180 contact hours).

**Pre- or co-requisite:** PHB 151, PHB 100 or PHB 170, with a grade of "C" or greater if taken as a pre-requisite.

**Attributes:** Technical

**Components:** LEC: Lecture

**PHB 170 (3 credit hours)****Applied Phlebotomy**

Teaches proper techniques in venipuncture and capillary collection. Includes a study of medical ethics, laboratory terminology, anatomy and physiology of the circulatory system, communication and record keeping, specimen processing, laboratory safety, isolation procedures, special collection procedures, specimen processing for the various laboratory departments, venipuncture complications, and quality assurance. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** Permission of the MLT Program Director/MLT Clinical Coordinator.

**Co-requisite:** PHB 152 or PHB 155.

**Attributes:** Technical

**Components:** LEC: Lecture

# Physical Therapist Assistant (PTA)

## PTA 101 (5 credit hours)

### Orientation to Physical Therapy Practice

Includes orientation to the profession of physical therapy, legal aspects of physical therapy practice, interdisciplinary team, cultural diversity, medical terminology, research and evidence-based practice, and introductory patient-care skills such as communication, aseptic techniques, body mechanics, safety procedures, wheelchair management, patient transfers, patient positioning and draping, and vital signs, identification and fitting of ambulation aids, basic gait training, patient and consumer education. Lecture: 2 credits (30 contact hours). Lab: 3 credits (90 contact hours).

**Pre-requisite:** Admission to the PTA Program and completion of BIO 137 with a grade of "C" or better.

**Co-requisite:** PTA 125.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## PTA 120 (2 credit hours)

### Basic Skills for the PTA

Introduces basic concepts of health and disease and introductory patient care skills. Includes orientation to the profession of physical therapy, legal aspects of physical therapy practice, and introductory patient-care skills such as aseptic technique; body mechanics; safety procedures; wheelchair management; patient transfers; positioning and draping; gait training; passive, active, and active-assisted exercise and stretching. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of BIO 137 & BIO 139 with a C or better.

**Co-requisite:** PTA 1501, PTA 1502, PTA 121, PTA 170.

**Components:** LEC: Lecture

## PTA 121 (2 credit hours)

### Basic Skills for the PTA Lab

Develops introductory patient-care skills such as communication; safety procedures; aseptic technique; body mechanics; wheelchair management; patient transfers; positioning and draping; gait training; pain assessment; passive, active, and active-assisted exercise; stretching; and documentation. Lab experiences will reflect concepts taught in the paired lecture course. Lab: 2 credits (60 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of BIO 137 & BIO 139 with a C or better.

**Co-requisite:** PTA 1501 and PTA 1502 and PTA 120 and PTA 170.

**Components:** LAB: Laboratory

## PTA 125 (1 credit hours)

### Neuroanatomy for the PTA

Encompasses the neuroanatomy of the central and peripheral nervous systems and applies these concepts to common neurological pathologies found in rehabilitation. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** Admission to the PTA Program and completion of BIO 137 with a grade of "C" or better.

**Co-requisite:** PTA 101.

**Components:** LEC: Lecture

## PTA 150 (6 credit hours)

### Functional Anatomy and Kinesiology

Emphasizes the structure and function of the musculoskeletal system, the relationship with biomechanical principles, basic physical principles, and the mechanical aspects of human motion. Includes muscle testing, flexibility testing, goniometry, and aspects of normal gait and posture. ] OR [Pathway 2: Admission to the PTA Program and completion of BIO 137 & BIO 139 with a grade of C or better]. Lecture: 3.0 credits (45 contact hours). Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of BIO 137, BIO 139, PTA 101 & PTA 125 with a grade of C or better.

**Co-requisite:** [Pathway 1: PTA 160 and PTA 170] OR [Pathway 2: PTA 120, PTA 121 and PTA 170].

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

## PTA 160 (3 credit hours)

### Medical and Surgical Conditions in Physical Therapy

Includes the study of health and disease of all age groups with an emphasis on the etiology, pathology, prevention, data collection, and physical therapy interventions in selected medical and surgical conditions encountered in physical therapy. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Admission to the PTA Program and completion of BIO 137, BIO 139, PTA 101 and PTA 125 with a C or better.

**Co-requisite:** PTA 150 and PTA 170.

**Attributes:** Technical

**Components:** LEC: Lecture

## PTA 170 (1 credit hours)

### Clinical Practicum I

Includes clinical observation and practice of selected physical therapy interventions and data collection with the application of knowledge from previous/concurrent PTA courses and general education coursework. ] OR [Pathway 2: Admission to the PTA Program and completion of BIO 137 & BIO 139 with a C or better.] Clinical: 1 credit (60 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of BIO 137, BIO 139, PTA 101 & PTA 125 with a C or better.

**Co-requisite:** [Pathway 1: PTA 150 and PTA 160] OR [Pathway 2: PTA 120, PTA 121, PTA 1501, and PTA 1502].

**Attributes:** Technical

**Components:** CLN: Clinical

## PTA 200 (5 credit hours)

### Modalities & Procedures in Physical Therapy

Includes the basic physical science principles of selected physical therapy interventions, data collection, and selected physiotherapy interventions including wound therapy, compression therapy, safety procedures, gait training, traction, massage, superficial heat and cold, deep heat modalities, electrotherapy, ultraviolet radiation, hydrotherapy, and documentation. Lecture: 2 credits (30 contact hours). Laboratory: 3 credits (90 contact hours).

**Pre-requisite:** If yes, list: Admission to the PTA Program and completion of: PTA 150 and 160 with a grade of "C" or better; PTA 170 with a grade of "P"; all general education courses required for completion of the Physical Therapist Assistant program with a grade of "C" or better.

**Co-requisite:** PTA 220 and PTA 240.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**PTA 202 (2 credit hours)****Therapeutic Modalities in Physical Therapy**

Includes the basic physical science, data collection, and principles of selected physical therapy interventions including, massage, superficial heat and cold, sound agents, electromagnetic radiation, electrotherapy, biofeedback, traction, and compression therapy. Student cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, PTA 121, PTA 170 with a C or better.

**Co-requisite:** PTA 222, PTA 223, PTA 234, PTA 233, PTA 203, PTA 240.

**Attributes:** Technical

**Components:** LEC: Lecture

**PTA 203 (2 credit hours)****Therapeutic Modalities in Physical Therapy Lab**

Develops skills in data collection, documentation, and the application of selected physical therapy interventions including, massage, superficial heat and cold, sound agents, electrotherapy, biofeedback, traction, and compression therapy. Lab experiences will reflect concepts taught in the paired lecture course. Student cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, PTA 121, PTA 170 with a C or better.

**Co-requisite:** PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, PTA 240.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PTA 220 (5 credit hours)****Physical Therapy Principles & Procedures**

Emphasizes selected physical therapy interventions, documentation, and data collection for management of patients with the following problems: musculoskeletal conditions, pulmonary diseases, pathological gait, balance problems, thermal injuries, arthritis, amputations and cardiac diseases. Includes therapeutic exercise, orthotics, prosthetics, wellness, and women's health issues. Lecture: 2 credits (30 contact hours). Laboratory: 3 credits (90 contact hours).

**Pre-requisite:** Admission to the PTA Program and completion of: PTA 150 and 160 with a grade of "C" or better; PTA 170 with a grade of "P"; all general education courses required for completion of the Physical Therapist Assistant program with a grade of "C" or better.

**Co-requisite:** PTA 200 and PTA 240.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**PTA 222 (2 credit hours)****Pathology & Rehabilitation of Orthopedic Conditions**

Emphasizes the etiology, pathology, prevention, data collection, and selected physical therapy interventions for management of patients with the following problems: musculoskeletal conditions, pathological gait, arthritis, and amputations. Includes the study of wellness and women's issues, therapeutic exercise, orthotics, and prosthetics. Completion of PTA 170 with a grade of P. Students cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a C or better.

**Co-requisite:** PTA 223, PTA 234, PTA 233, PTA 202, and PTA 203, and PTA 240.

**Attributes:** Technical

**Components:** LEC: Lecture

**PTA 223 (2 credit hours)****Pathology & Rehabilitation of Orthopedic Conditions Lab**

Develops skills in selected physical therapy interventions and data collection for management of patients with the following problems: musculoskeletal conditions, pathological gait, arthritis, and amputations. Includes therapeutic exercise, orthotics, prosthetics, and supportive devices. Completion of PTA 170 with a grade of P. Students cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lab: 2 credits (60 contact hours).

**Pre-requisite:** Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a C or better.

**Co-requisite:** PTA 222, PTA 234, PTA 233, PTA 202, PTA 203 and PTA 240.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PTA 233 (2 credit hours)****Pathology & Rehabilitation of Neurological & Pediatric Conditions Lab**

Develops skills in the application of selected physical therapy interventions for patients of all age groups with disabilities resulting from the following: brain injury, spinal cord injury, genetic/congenital, and balance disorders. Includes techniques of neuromuscular re-education. Completion of PTA 170 with a grade of P. Students cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lab: 2 credits (60 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a C or better.

**Co-requisite:** PTA 222, PTA 223, PTA 234, PTA 202, and PTA 203, and PTA 240.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PTA 234 (2 credit hours)****Pathology & Rehabilitation of Neurological & Pediatric Conditions**

Focuses on etiology, pathology, progression, prevention, data collection, and selected physical therapy interventions for management of patients of all age groups with disabilities resulting from the following: brain injury, spinal cord injury, and genetic/congenital disorders. Includes balance disorders, normal growth and development, and the rationale and techniques of neuromuscular re-education. Completion of PTA 170 with a grade of "P". Students cannot progress to PTA 240 without a grade of "C" or better in all other co-requisite courses. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a "C" or better.

**Co-requisite:** PTA 222, PTA 223, PTA 233, PTA 202, and PTA 203 and PTA 240.

**Components:** LEC: Lecture



**PTA 240 (2 credit hours)****Clinical Practicum II**

Includes clinical observation and practice of selected physical therapy interventions and data collection with the application of knowledge from previous/concurrent PTA courses and general education coursework. This course will entail four consecutive weeks of full-time clinical experience. In order to participate in this clinical experience, the student must be earning a grade of C or better in all Co-requisite courses. ] OR [Pathway 2: Admission to the PTA Program and completion of: PTA 120, PTA 121, PTA 1501, and PTA 1502 with a grade of C or better; PTA 170 with a grade of P.] ] Pre-requisite Or Co-requisite: [Pathway 1: PTA 200 and PTA 220. Students cannot progress to PTA 240 without a grade of C or better in PTA 200 and PTA 220.] Practicum: 2.0 credits (160 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of: PTA 150 and 160 with a C or better; PTA 170 with a grade of P; all general education courses required for completion of the Physical Therapist Assistant program with a grade of C or better.

**Co-requisite:** [Pathway 2: PTA 202, PTA 203, PTA 222, PTA 223, PTA 232, and PTA 233, Students cannot progress to PTA 240 without a grade of C or better in all Co-requisite courses. [Pathway 1: PTA 200 and PTA 220.

**Attributes:** Technical

**Components:** PCM: Practicum

**PTA 250 (5 credit hours)****Neurological Rehabilitation in Physical Therapy**

Focuses on rehabilitation procedures, including assistive devices, for patients of all age groups with disabilities resulting from brain injury, spinal cord injury, genetic/congenital disorders, and other neurodegenerative disorders. Includes normal growth and development and the rationale and techniques of neuromuscular re-education. Pre-requisite Or Co-requisite: PTA 280; if taken as a Pre-requisite to PTA 280, must earn a grade of C or better for PTA 250. Lecture: 3 credits (45 contact hours). Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** Admission to the PTA Program and completion of: PTA 200 and 220 with a grade of C or better and PTA 240 with a grade of P.

**Co-requisite:** PTA 260. PTA 280; if taken as a Pre-requisite to PTA 280, must earn a grade of C or better for PTA 250.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**PTA 255 (1 credit hours)****Pathology & Rehabilitation of Special Populations & Conditions Lab**

Develops skills in the application of selected physical therapy interventions for patients with the following problems: respiratory system, cardiovascular system, metabolic, and rheumatologic pathologies; psychiatric disorders; infectious diseases; oncology; thermal injuries; integumentary disorders; and wounds. Includes therapeutic exercise and wound care. Completion of PTA 240 with a grade of P. Students cannot progress to PTA 280 without a grade of C or better in all other co-requisite courses. Lab: 1 credit (30 contact hours).

**Pre-requisite:** PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 203 with a C or better.

**Co-requisite:** PTA 256, PTA 260, and PTA 280.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PTA 256 (2 credit hours)****Pathology & Rehabilitation of Special Populations and Conditions**

Emphasizes the etiology, pathology, prevention, data collection, and selected physical therapy interventions for management of patients with the following conditions: respiratory system, cardiovascular system, metabolic, and rheumatologic pathologies; psychiatric disorders; infectious diseases; oncology; thermal injuries; integumentary disorders; and wounds. Includes therapeutic exercise and wound care. Completion of PTA 240 with a grade of "P". Students cannot progress to PTA 280 without a grade of "C" or better in all other co-requisite courses. Lecture: 2.0 credits (30 contact hours)

**Pre-requisite:** PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 203 with a "C" or better.

**Co-requisite:** PTA 255, PTA 260, and PTA 280.

**Components:** LEC: Lecture

**PTA 260 (2 credit hours)****Seminar in Physical Therapy**

Presents topics to assist the student in the transition to physical therapist assistant including trends, specialized practice, patient services, and the employment process. Utilizes case studies to assist students to integrate theory and practice. ] OR [Pathway 2: PTA 202, PTA 203, PTA 222, PTA 223, PTA 234, and PTA 233 with a grade of "C" or better. Completion of PTA 240 with a grade of "P".] Students cannot progress to PTA 280 without a grade of "C" or better in all co-requisite courses.] Pre-requisite Or Co-requisite: [Pathway 1: PTA 280; if taken as a prerequisite to PTA 280, must earn a C or better for PTA 260.] Lecture: 2 credits (30 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of: PTA 200 and 220 with a grade of "C" or better and PTA 240 with a grade of "P".

**Co-requisite:** [Pathway 1: PTA 250] OR [Pathway 2: PTA 256, PTA 255, and PTA 280. [Pathway 1: PTA 280; if taken as a prerequisite to PTA 280, must earn a C or better for PTA 260.] Lecture: 2 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PTA 280 (5 credit hours)****Clinical Practicum III**

Includes clinical observation and practice of physical therapy interventions and data collection with the application of knowledge from previous and concurrent PTA courses and general education coursework. By the end of the clinical experience the student will demonstrate an entry level of practice. ] OR [Pathway 2: PTA 202, PTA 203 PTA 222, PTA 223, PTA 232, and PTA 233 with a grade of C or better. Completion of PTA 240 with a grade of P.] Students cannot progress to PTA 280 without a grade of C or better in all Co-requisite courses.] Pre-requisite Or Co-requisite: [Pathway 1: PTA 250, PTA 260; if taken as Pre-requisites to PTA 280, must earn a C or better for PTA 250 & PTA 260.] Practicum: 5 credits (400 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of: PTA 200 and 220 with a grade of C or better and PTA 240 with a grade of P.

**Co-requisite:** [Pathway 2: PTA 254, PTA 255, and PTA 260. [Pathway 1: PTA 250, PTA 260; if taken as Pre-requisites to PTA 280, must earn a C or better for PTA 250 & PTA 260.

**Attributes:** Technical

**Components:** PCM: Practicum

**PTA 1501 (3 credit hours)****Functional Anatomy and Kinesiology Lab**

Develops selected data collection techniques in physical therapy, including: goniometry, manual muscle testing, flexibility, sensory integrity, reflex testing, and postural assessment. Lab experiences will reflect concepts taught in paired lecture course. ] Lab: 3 credits (90 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of BIO 137, BIO 139, PTA 101 and PTA 125 with a grade of C or better] OR [Pathway 2: Admission to the PTA Program; Completion of BIO 137 & BIO 139 with a C or better.

**Co-requisite:** [Pathway 1: PTA 160, PTA 170 & PTA 1502] OR [Pathway 2: PTA 120, PTA 121, PTA 1502 and PTA 170].

**Components:** LAB: Laboratory

**PTA 1502 (3 credit hours)****Functional Anatomy and Kinesiology Lecture**

Provides knowledge related to the structure and function of the musculoskeletal system, the relationship with biomechanical principles, basic physical principles, and the mechanical aspects of human motion. Includes principles of muscle testing, flexibility testing, goniometry, and aspects of normal gait and posture. ] OR [Pathway 2: Admission to the PTA Program and completion of BIO 137 & BIO 139 with a C or better.] ] Lecture: 3 credits (45 contact hours).

**Pre-requisite:** [Pathway 1: Admission to the PTA Program and completion of BIO 137, BIO 139, PTA 101 & PTA 125 with a grade of C or better.

**Co-requisite:** [Pathway 1: PTA 160, PTA 170 & PTA 1501] OR [Pathway 2: PTA 120, PTA 121, PTA 1501 and PTA 170.

**Components:** LEC: Lecture

## Physics (PHX)

**PHX 150 (3 credit hours)****Introductory Physics**

A non-calculus approach to the concepts and applications of the physical principles of force, work, rate, resistance, energy, power, force transformers and gas laws is presented in this course. Students are shown by examples, classroom demonstration, and laboratory experiments how these concepts are applied to the translational and rotational mechanical, fluidal, electrical and thermal energy systems. Problem solving techniques and scientific method are stressed throughout this course. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 116 or MAT 126.

**Attributes:** Technical

**Components:** LEC: Lecture

## Physics (PHY)

**PHY 151 (3 credit hours)****Introductory Physics I**

Focuses on the conceptual principles of mechanics of solids, liquids, gases, heat, and sound using some algebra. Credit is not given to students who already have credit for PHY 201 or PHY 231. Companion lecture to PHY 161 laboratory. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** KCTCS placement in College Algebra or completion of Intermediate Algebra.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**PHY 152 (3 credit hours)****Introductory Physics II**

Focuses on the conceptual principles of electricity, magnetism, optics, atomic, and nuclear physics using some algebra. Credit is not given to students who already have credit for PHY 203 or PHY 232. Companion lecture to PHY 162 laboratory. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** KCTCS placement in College Algebra or completion of Intermediate Algebra.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**PHY 160 (3 credit hours)****Physics and Astronomy for Elementary Teachers**

Addresses basic concepts of astronomy and physics appropriate for elementary teachers and is taught with an emphasis on inquiry-based, laboratory activities. Topics include the basics of the motion of objects, astronomy by sight, electrical circuits, magnetism and the behavior of light. Companion course to GLY 160. Lecture: 1 credit hour (15 contact hours). Lab: 2 credit hours (75 contact hours).

**Pre-requisite:** GLY 160.

**Attributes:** SL - Science Laboratory, SN - Science

**Components:** LAB: Laboratory, LEC: Lecture

**PHY 161 (1 credit hours)****Introductory Physics I Laboratory**

Investigates concepts introduced in PHY 151 through experiments in classical mechanics and thermal physics. Pre-requisite or concurrent: PHY 151. Lab: 1 credit hour (30 contact hours).

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**PHY 162 (1 credit hours)****Introductory Physics II Laboratory**

Investigates concepts introduced in PHY 152 through experiments in electricity, magnetism, light, atoms, and nuclei. Pre-requisite or concurrent: PHY 152. Lab: 1 credit hour (30 contact hours).

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**PHY 171 (4 credit hours)****Applied Physics**

Surveys mechanics, heat, sound, electricity, magnetism, light, and modern physics as applied to practical systems. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credits (30 contact hours).

**Pre-requisite:** (MAT 85 or (MAT 116 or greater) or Equivalent math placement score) or consent of instructor.

**Attributes:** SL - Science Laboratory, SN - Science, Course Also Offered in Modules

**Components:** LAB: Laboratory, LEC: Lecture

**PHY 172 (2 credit hours)****Physics for Health Sciences**

Introduces the basic concepts of motion, forces, work, energy, power and waves through experimentation, as applied in electricity and magnetism, optics, atomic, and nuclear physics. Lab: 2 credit hours (60 contact hours).

**Pre-requisite:** KCTCS placement in College Algebra or completion of Intermediate Algebra.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**PHY 201 (4 credit hours)****College Physics I**

Focuses on the mechanics of matter as governed by Newton's Laws; by the conservation laws of energy, momentum, and angular momentum; and thermal processes using algebra and basic trigonometry. Companion lecture to PHY 202 Laboratory. Credit is not given to students who have already completed PHY 231. Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).

**Pre-requisite:** (MAT 150 or higher) or MA109 or an ACT math score of 25 or higher.

**Attributes:** SN - Science

**Components:** DIS: Discussion, LEC: Lecture

**PHY 202 (1 credit hours)****College Physics I Laboratory**

Enhances concepts introduced in PHY 201 through experiments in classical mechanics and thermal physics. Pre-requisite Or Laboratory: 1.0 credit (30 contact hours).

**Co-requisite:** PHY201 or equivalent.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**PHY 203 (4 credit hours)****College Physics II**

Focuses on electromagnetic phenomena, circuits, optics and an introduction to modern physics using algebra and basic trigonometry. Companion lecture to PHY 204 laboratory. Credit is not given to students who have already completed PHY 232. Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).

**Pre-requisite:** PHY 201 or equivalent.

**Attributes:** SN - Science

**Components:** DIS: Discussion, LEC: Lecture

**PHY 204 (1 credit hours)****College Physics II Laboratory**

Enhances concepts introduced in PHY 203 through experiments in electricity, magnetism, and optics. Pre-requisite Or Lab: 1.0 credit hour (30 contact hours).

**Co-requisite:** PHY203 or equivalent.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**PHY 231 (4 credit hours)****General University Physics I**

Focuses on the mechanics of matter as governed by Newton's Laws and by the conservation laws of energy, linear momentum, and angular momentum using calculus and trigonometry. Companion lecture to PHY 241 laboratory. Pre-requisite Or Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).

**Co-requisite:** MAT185 or MA 114 or equivalent.

**Attributes:** SN - Science

**Components:** DIS: Discussion, LEC: Lecture

**PHY 232 (4 credit hours)****General University Physics II**

Focuses on electromagnetic phenomena, circuits, and optics using vector calculus. Companion lecture to PHY 242 laboratory. Pre-requisite Or Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).

**Pre-requisite:** PHY 231.

**Co-requisite:** MAT 275 or MA 213 or equivalent.

**Attributes:** SN - Science

**Components:** DIS: Discussion, LEC: Lecture

**PHY 241 (1 credit hours)****General University Physics I Laboratory**

Enhances concepts introduced in PHY 231 through a complement of experiments relating to motion, Newton's laws, rotation, and energy conservation principles. Pre-requisite Or Laboratory: 1 credit hour (30 contact hours).

**Co-requisite:** PHY 231.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

**PHY 242 (1 credit hours)****General University Physics II Laboratory**

Enhances concepts introduced in PHY 232 through a complement of experiments probing electromagnetic phenomena, circuits, and optics. Pre-requisite Or Laboratory: 1 credit hour (30 contact hours).

**Co-requisite:** PHY 232.

**Attributes:** SL - Science Laboratory

**Components:** LAB: Laboratory

## Physiology (PGY)

**PGY 206U (3 credit hours)****Elementary Physiology**

An introductory survey course in basic human physiology. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** One semester of college biology.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## Plumbing (PLB)

**PLB 100 (3 credit hours)****Basic Theory of Plumbing**

Provides a history of the plumbing trade and basic principles of the trade. Lecture: 2 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PLB 105 (3 credit hours)****Plumbing Principles**

Provides the proper installation procedures for piping, water heaters and sewage systems. The plumbing codes appropriate for each installation will also be studied. Laboratory: 3 credits (135 contact hours).

**Components:** LAB: Laboratory

**PLB 115 (4 credit hours)****Plumbing Applications**

Presents information and methods for working with different types of tubing and piping necessary for supply and drainage. Skills necessary for rough-in installation of kitchen and bathroom fixtures is also a component of this course. Prerequisite: PLB 105. Laboratory: 4 credits (180 contact hours).

**Components:** LAB: Laboratory

**PLB 150 (3 credit hours)****Plumbing, Introduction to the Trade**

Introduces the origin and basic principles of the plumbing industry. Includes the orientation of methods associated with the plumbing industry. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PLB 151 (3 credit hours)****Basic Plumbing Skills**

This course introduces the student to basic pipe joining techniques. Laboratory: 3 credits (135 contact hours).

**Co-requisite:** PLB 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PLB 160 (3 credit hours)****Plumbing Systems, DWV & Water**

Presents a study of designing and sizing water distribution and drain, waste and vent pipes. Studies of code requirements and installation of common residential fixtures is also covered. Prerequisite: PLB 150 or equivalent. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PLB 161 (2 credit hours)****Rough-in of Plumbing Fixtures**

Develops the skills necessary to rough-in DWV and water piping for residential or commercial applications. Corequisite: PLB 160. Laboratory: 2 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**PLB 250 (3 credit hours)****Plumbing Appliances & Fixtures**

Presents the installation practices of residential water heaters (electrical and gas); and the installation of commercial water heating systems with pumps, controls, and valve systems. Study will also include site layout and testing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PLB 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLB 251 (2 credit hours)****Pumps and Water Heaters**

Develops skills in the installation of plumbing appliances (water heater), and appurtenances. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** PLB 150.

**Co-requisite:** PLB 250.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PLB 260 (2 credit hours)****Service**

This course presents the study of methods, procedures, and skills involved in planning and estimating residential and commercial plumbing fixtures and systems. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** PLB 150 or equivalent.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLB 261 (2 credit hours)****Advanced Plumbing Lab**

This course will teach the student to plan and apply local code requirements for residential plumbing systems, and estimate supplies and cost of same. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** PLB 150 or equivalent.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PLB 262 (3 credit hours)****Backflow Prevention**

This course teaches the student how to protect portable water systems from the hazards of backflow. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLB 269 (1 credit hours)****Sewer and Drain Cleaning**

Teaches the student to remove obstructions from trap fixtures, sewer lines, and drain lines. Repair of leaks and maintenance of cleaning equipment is also included. Prerequisite: PLB 150 or equivalent.

Laboratory: 1 credit (45 contact hours).

**Components:** LAB: Laboratory

**PLB 270 (3 credit hours)****License Preparation for Journeyman Exam**

Provides a study of Kentucky Code in preparation for the Journeyman Exam. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**PLB 298 (4 credit hours)****Practicum/Repairs & Maintenance**

Designed to provide the student with experience in the plumbing industry. This will be a non-paid evaluation of a student's developed skills.

Practicum: 4 credits (180 contact hours).

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**PLB 299 (4 credit hours)****Cooperative Education**

Provides students with experience in the plumbing industry. This will be a paid evaluation of a student's developed skills. Co-op: 4 credits (300 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Political Science (POL)

**POL 101 (3 credit hours)****American Government**

Examines national government and the political process in the United States, with emphasis on the Constitution, the President, Congress, and the judicial system. Focuses on the nature of American democracy, political challenges, and opportunities. Lecture: 3.0 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**POL 210 (3 credit hours)****Introduction to European Politics: East and West**

Compares the political institutions, policy-making processes, citizen participation and political outcomes in Eastern and Western European states. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture



**POL 212 (3 credit hours)****Culture and Politics in Developing Nations**

Examines and compares the politics of selected states in Africa, Asia, and Latin America analyzing such issues as culture, ethnicity, language, social class, and ideology. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**POL 235 (3 credit hours)****World Politics**

Examines the most significant problems of world politics, including the fundamental factors governing international relations, the techniques and instruments of power politics, and the conflicting interest in organizing world peace. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**POL 255 (3 credit hours)****State Government**

Examines the institutions, political processes, and policies of state governments, and the relationships of state governments with other levels of government in the United States. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**POL 271 (3 credit hours)****Introduction to Political Behavior**

The study of behavior in a political context; the analysis of basic behavioral concepts used in political science such as political roles, group behavior, belief systems, personality, power, and decision-making. Lecture: 3 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**POL 280 (3 credit hours)****Introduction to Public Policy**

Examines public policy and the decision-making process. Incorporates discussion of relevant contemporary policy issues, which may include poverty, ethics, health care, energy, education, race and ethnic relations, science and technology, and the environment. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**POL 299 (1-3 credit hours)****Special Topics in Political Science**

Addresses various topics, issues, and trends in political science. Includes topics that may vary from semester to semester at the discretion of the instructors. Lecture: 1.0 - 3.0 credits (15 contact hours).

**Components:** LEC: Lecture

## Polysomnography (PSG)

**PSG 100 (2 credit hours)****Introduction to Polysomnography**

Introduces the topics of behavioral and performance objectives, national patient safety goals, medical ethics, infection control, environmental and clinical emergencies, HIPPA, basic medical terminology and skills required for employment. Lecture: 2.0 credit (30 contact hours).

**Pre-requisite:** Minimum grade of a C in [(BIO 137 and (MAT 110 or MAT 146 or MAT 150))] or consent of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**PSG 110 (3 credit hours)****Polysomnography Level I**

Provides the knowledge necessary for entry-level personnel in the basics of polysomnographic technology. Includes instrumentation setup and calibration, recording and monitoring techniques, therapeutic interventions and patient-technologist interactions related to polysomnography. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** (BIO 137 and (MT 110 or MT 145 or MT 150)) with a grade of C or better) or consent of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**PSG 111 (1 credit hours)****Polysomnography Lab I**

Provides practical experience on the equipment used during a standard sleep study. The set-up, calibration, attachment, artifact recognition and troubleshooting of electroencephalographic (EEG), electro-oculographic (EOG), electromyographic (EMG), pulse oximetry (SpO2), body position, airflow, chest and abdominal movement detection equipment as well as the application of positive airway pressure and oxygen used in therapeutic interventions will be included. Laboratory exercises to develop effective patient-technologist interactions will also be included. Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** (BIO 137 and (MT 110 or MT 145 or MT 150) with a grade of C or better) or consent of the instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PSG 115 (3 credit hours)****Polysomnography Practice I**

Provides clinical experience and training in the basic skills required of an entry-level polysomnographic technologist. Includes instrumentation set-up and calibration, recording and monitoring techniques, documentation, professional issues and patient-technologist interactions related to polysomnographic technology. Clinical: 3 credits (180 contact hours). Also Healthcare Provider BLS certification.

**Pre-requisite:** ((BIO 137 and (MT 110 or MT 145 or MT 150) with a grade of C or better) or consent of the instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**PSG 130 (3 credit hours)****Polysomnography Level II**

Addresses all of the aspects of sleep scoring and event recognition, instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, therapeutic interventions, and patient-technologist interactions related to polysomnography. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSG 110 with a grade of a C or better, or consent of the instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**PSG 131 (1 credit hours)****Polysomnography Lab II**

Provides laboratory training in advanced aspects of polysomnographic technology. Students will become familiar with the skills and apply the knowledge needed to evaluate sleep recordings. It covers sleep stage scoring, event recognition, report generation, and higher level therapeutic interventions. Includes procedure and scoring for specialized testing such as the multiple sleep latency test (MSLT) and maintenance of wakefulness test (MWT). Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** PSG 111 with a grade of C or better, or consent of the instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PSG 133 (3 credit hours)****Pathologies of Sleep and Related Disorders**

Develops knowledge of pathophysiology of sleep disorders as well as the effect of co-morbidities on sleep. Presents content on pathologies and related applications for various age groups to include pharmacology, medical emergency recognition and treatment. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSG 110 with a grade of C or better or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**PSG 135 (3 credit hours)****Polysomnography Practice II**

Provides students with experience in advanced aspects of polysomnographic technology. It covers all the aspects of sleep scoring and event recognition, instrumentation set-up and calibration, recording and monitoring techniques, documentation, professional issues, therapeutic interventions, and patient-technologist interactions related to polysomnographic technology. Clinical: 3 credits (180 contact hours). Also Healthcare Provider BLS certification.

**Pre-requisite:** PSG 115 with a grade of C or better, or consent of the instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

## Power Mechanics/Measurement (PMX)

**PMX 100 (3 credit hours)****Precision Measurement**

This class introduces the student to the basic fundamentals of precision measurement and its application in the industrial setting. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Practical Nursing (NPN)

**NPN 100 (2 credit hours)****Introduction to Nursing & Health Care System**

Includes a historical overview of current health care including medical economics, ethical and legal parameters, roles, and responsibilities of health care team members with an emphasis on reflective nursing practice. Introduces the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Explores medical terminology, therapeutic communication techniques, concepts of health, health assessment, self-care and basic needs related to activities of daily living across the lifespan. Or Consent of PN Coordinator. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry].

**Pre- or co-requisite:** (BIO 135 or BIO 139) and NPN 105 and NPN 114 with a grade of "C" or better for each course.

**Attributes:** Technical

**Components:** LEC: Lecture

**NPN 101 (6 credit hours)****Nursing Fundamentals**

Provides an overview of the health care system and roles and responsibilities of members of the health care team. Emphasizes the role of the practical nurse in the context of Quality and Safety Education for Nurses (QSEN), National League of Nursing (NLN) Education Competencies, and Maslow's hierarchy of needs as related to client daily living across the life span. Covers fundamental nursing skills including therapeutic communication techniques, nursing assessment, health promotion, nursing process and care planning, charting nursing informatics, and legal and ethical parameters of health care. Lecture: 3.0 credits (45 contact hour). Lab: 3.0 credits (135 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry].

**Pre- or co-requisite:** (BIO 135 or BIO 139) and (AHS 115 or CLA 131 or AHS 120 or OST 103) with a grade of "C" or better in each course.

**Attributes:** Digital Literacy, Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**NPN 105 (6 credit hours)****Development of Care Giver Role**

Introduces and emphasizes application of the nursing process in the context of Maslow's hierarchy of needs to meet the needs of diverse patients across the life span at the practical nursing level. Establishes the foundational knowledge for competency-based nursing practice by introducing basic nursing concepts, fundamental nursing skills related to health assessment, promotion, maintenance, and illness prevention, and critical thinking as a framework for organizing care delivery. Strengthens the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Or Consent of PN Coordinator. Lecture: 3.0 credits (45 contact hours); Lab/Clinical: 3.0 credits (45:1 ratio/135 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry].

**Pre- or co-requisite:** (BIO 135 or BIO 139) and NPN 100 and NPN 114 with a grade of "C" or better in each course.

**Attributes:** Digital Literacy, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 106 (6 credit hours)****Fundamentals of Nursing Care**

Provides a historical overview of health care system and roles and responsibilities of members of the health care team. Introduces the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Emphasizes application of the nursing process in the context of Maslow's hierarchy of needs to meet the needs of diverse patients across the life span at the practical nursing level. Establishes the foundational knowledge for competency-based nursing practice by introducing basic nursing concepts, fundamental nursing skills, and critical thinking as a framework for organizing care delivery. Proof of active status on Kentucky Medicaid Nurse Aide Registry or its equivalent. (BIO 135 or BIO 137) and ENG 101 and (AHS 115 or CLA 131) with a grade of "C" or better in each course. Lecture: 4 credit hours (60 contact hours). Lab/Clinical: 2 credit hours (90 contact hours).

**Pre-requisite:** Admission to Practical Nursing program.

**Pre- or co-requisite:** (BIO 135 or BIO 139) with a grade of "C" or better.

**Attributes:** Digital Literacy, Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 107 (5 credit hours)****Nursing Pharmacology**

Introduces dosage calculations and medication administration of commonly used medications. Includes an overview of common drugs, drug classifications, and effects administered in the following modes: oral, sublingual, rectal, topical, intradermal, intramuscular, subcutaneous, intravenous including IV fluid administration skills. Emphasizes nursing responsibility, accountability, and application of nursing process to drug therapy. Incorporates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN) related to medication administration. Proof of active status on Kentucky Medicaid Nurse Aide Registry or its equivalent. (BIO 135 or BIO 137) and ENG 101 and (AHS 115 or CLA 131) with a grade of "C" or better in each course. Lecture: 3 credits (45 contact hours) Lab/Clinical: 2 credits (90 contact hours).

**Pre-requisite:** Admission to the Practical Nursing program.

**Pre- or co-requisite:** (BIO 135 or BIO 139) with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 108 (3 credit hours)****Pharmacology in Nursing**

Introduces dosage calculations and medication administration of commonly used medications. Includes an overview of common drugs, drug classifications, and effects administered in the following modes: oral, sublingual, rectal, topical, intradermal, intramuscular, subcutaneous, intravenous including IV fluid administration skills. Emphasizes nursing responsibility, accountability, and application of nursing process to drug therapy. [ENG 101 and MT 110 and (AHS 115 or CLA 131) with a minimum "C" grade.] Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (45 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry] AND Computer Literacy as defined by KCTCS.

**Pre- or co-requisite:** BIO 139, if prerequisite, a grade of "C" or greater must be achieved.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LAB: Laboratory, LEC: Lecture

**NPN 110 (2 credit hours)****Pharmacology I**

Introduces techniques used to administer medications. Includes dosages, diagnostic studies, related medical therapies, and legal responsibilities. Lecture: 1.0 credit (15 contact hours); Lab/Clinical: 1.0 credit (45:1 ratio/45 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry] AND Digital Literacy as defined by KCTCS.

**Pre- or co-requisite:** [(BIO 135 or BIO 139), if prerequisite, a grade of "C" or greater must be achieved] OR Consent of PN Coordinator.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**NPN 111 (3 credit hours)****Pharmacology**

Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry] AND Computer Literacy as defined by KCTCS. Lecture: 1.0 credit (15 contact hours). Lab/Clinical: 2.0 credits (90 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry] AND Digital Literacy as defined by KCTCS.

**Pre- or co-requisite:** (BIO 135 or BIO 139) and (AHS 115 or CLA 131 or AHS 120 or OST 103), if prerequisite, a grade of "C" or greater must be achieved.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 112 (4 credit hours)****Introduction to Pharmacology**

Introduces dosage calculations and medication administration of commonly used medications. Includes an overview of common drugs, drug classifications, and effects administered in the following modes: oral, sublingual, rectal, topical, intradermal, intramuscular, subcutaneous, intravenous including IV fluid administration skills. Promotes nursing responsibility, accountability, and application of nursing process to drug therapy. Emphasizes role and responsibilities in administration of medications according to 201 KAR 20:490. Establishes the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 2 credits (30 contact hours) Lab/Clinical: 2 credits (90 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry].

**Pre- or co-requisite:** (BIO 135 or BIO 139) and (AHS 115 or CLA 131 or AHS 120 or OST 103) with a grade of "C" or better in each course.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 114 (3 credit hours)****Principles of Pharmacology I**

Introduces dosage calculations and medication administration basic principles and techniques. Includes techniques of medication administration in the following modes: oral, sublingual, rectal, topical, intradermal, intramuscular, and subcutaneous. Emphasizes nursing principles of responsibility, accountability, and application of nursing process to medication administration. Incorporates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN) related to medication administration. Or Consent of PN Coordinator. Lecture: 2 credits (30 contact hours) Lab/Clinical: 1 credit (45 contact hours).

**Pre-requisite:** Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [(NAA 100 or equivalent) within the past three years OR active status on the Medicaid Nurse Aide Registry].

**Pre- or co-requisite:** (BIO 135 or BIO 139) and NPN 100 and NPN 105 with a grade of "C" or better in each course.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 115 (6 credit hours)****Practical Nursing Bridge Course**

Provides overview of the health care system and roles and responsibilities of the health care team. Emphasizes the nursing process in the context of Gordon's Functional Health Patterns and Maslow's hierarchy of needs as related to client daily living across the life span. Covers fundamental nursing skills including therapeutic communication techniques, nursing assessment, and the nursing process. Introduces dosage calculations and administration of medications. Includes an overview of common drugs, drug classifications, and effects of drugs administered in all modes. Emphasizes nursing responsibility, accountability, and the application of the nursing process to drug therapy. Upon successful completion of all components of the course, the student will be admitted to NPN 135 and will have earned advanced standing hours, dependent upon curriculum option. Pre-requisite Or Lecture: 3.0 credit hours (45 contact hours). Laboratory: 3.0 credit hours (135 contact hours).

**Pre-requisite:** Admission to the Practical Nursing Program AND (NAA 115 or equivalent) AND (BIO 135 or BIO 139) AND (ENG 101 or COM 181 or COM 252 or TEC 200) AND (CLA 131 or AHS 120 or OST 103) AND Digital Literacy with a minimum grade of C in each Pre-requisite course.

**Co-requisite:** (AHS 100 or PSY 223) with a minimum grade of "C".

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**NPN 116 (3 credit hours)****Principles of Pharmacology II**

Includes an overview of common drugs by classification and effects with emphasis on responsibility, accountability, and application of the nursing process to drug therapy. Incorporates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN) related to medication administration. Or Consent of PN Coordinator. Lecture: 2 credits (30 contact hours). Lab/Clinical: 1.0 credit (45 contact hours).

**Pre-requisite:** (BIO 135 or BIO 139) and NPN 100 and NPN 105 and NPN 114 with grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 125 (3 credit hours)****Mental Health**

Focuses on the application of the core components of nursing practice for patients across the life span experiencing actual or potential alterations in mental health. Explores the role and relationship of the nurse in the multidisciplinary team in various settings and treatment modalities. Applies the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Or Consent of PN coordinator. Pre-requisite Or Pathway 3: NPN 106 and NPN 107 and (BIO 135 or BIO 139) with a grade of "C" or better in each course. Lecture: 2.0 credits (30 contact hours). Lab/Clinical: 1.0 credit (45 contact hours).

**Pre-requisite:** Pathway 1: NPN 100 and NPN 105 and NPN 114 and (BIO 135 or BIO 139) with a grade of "C" or better in each course.

**Co-requisite:** Pathway 2: NPN 101 and NPN 112 and (BIO 135 or BIO 139) and (AHS 120 or AHS 115 or OST 103 or CLA 131) with a grade of "C" or better in each course.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture



**NPN 135 (6 credit hours)****Introduction to Health Deviation**

Focuses on the application of the core components of nursing practice across the lifespan in the areas of the perioperative cycle, deviations in the respiratory system and oxygenation, and threats to the body's immune system. Strengthens the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Or Consent of PN Coordinator. Pathway 2: NPN 101 and NPN 112 and (BIO 135 or BIO 139) and (AHS 120 or AHS 115 or CLA 131 or OST 103) with grade of "C" or better in each course. Lecture: 3.0 credits (45 contact hours); Lab/Clinical: 3.0 credit (45:1 ratio/135 contact hours).

**Pre-requisite:** Pathway 1: NPN 100 and NPN 105 and NPN 114 and (BIO 135 or BIO 139) with grade of "C" or better in each course.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 140 (3 credit hours)****Nursing Care I**

Applies nursing process to selected child/adult clients experiencing common health deviations related to interferences with activities of daily living and/ or interruption of body structure and function related to surgical interference. Prerequisite: ((NPN 106 and NPN 108 and BIO 139). Minimum "C" grade). Prerequisite or Corequisite: ((NPN 125 and NPN 201). If prerequisite, a grade of "C" or greater must be achieved). Lecture: 2 credits (30 contact hours). Laboratory/Clinical: 1 credit (45 contact hours).

**Attributes:** Course Also Offered in Modules

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 200 (5 credit hours)****Med Surg I**

Applies the nursing process, Maslow's Hierarchy of Needs, and core components of nursing practice to selected patients experiencing actual or potential alterations in health emphasizing the concepts of elimination, coordination, cardiac function, and metabolism. Strengthens the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Or Consent of PN Coordinator. Lecture: 3 credits (45 contact hours). Lab/Clinical: 2 credits (90 contact hours).

**Pre-requisite:** NPN 125 and NPN 116 and NPN 135 and NPN 201 with a grade of "C" or better in each course.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 201 (3 credit hours)****Child Bearing Family**

Focuses on the application of the core components of nursing practice to include childbearing patients and their families, concepts related to the newborn, and women's reproductive health issues. Utilizes the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Or Consent of PN Coordinator. Pre-requisite Or Pathway 3: NPN 106 and NPN 107 and (BIO 135 or BIO 139) with a grade of "C" or better in each course. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

**Pre-requisite:** Pathway 1: NPN 100 and NPN 105 and NPN 114 and (BIO 135 or BIO 139) with a grade of "C" or better in each course.

**Co-requisite:** Pathway 2: NPN 101 and NPN 112 and (BIO 135 or BIO 139) and (AHS 120 or AHS 115 or CLA 131 or OST 103) and NPN 125 and NPN 135 and NPN 202 and (ENG 101 or COM 181 or COM 252) with a grade of "C" or better in each course.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 202 (6 credit hours)****Med-Surg I Alterations**

Applies nursing process across the lifespan to common health deviations related to metabolic dysfunctions, fluid and electrolyte imbalances, cardiovascular dysfunctions, and cellular deviations. Integrates the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 4 credits (60 contact hours). Lab/Clinical 2.0 credits (90 contact hours)

**Pre-requisite:** NPN 101 and NPN 112 and (BIO 135 or BIO 139) and (AHS 115 or AHS 120 or CLA 131 or OST 103) with a grade of "C" or better in each course.

**Pre- or co-requisite:** NPN 135 with a grade of "C" or better.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 203 (6 credit hours)****Medical Surgical Nursing I**

Applies the nursing process, Maslow's Hierarchy of Needs, and core components of nursing practice to selected patients experiencing actual or potential alterations in health emphasizing the concepts of oxygenation, nutrition and metabolism, fluid & electrolytes, acid/base balance, and cellular deviations. Strengthens the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN).

**Pre-requisite:** (BIO 135 or BIO 139) and NPN 106 and NPN 108 and NPN 125 with a grade of "C" or better in each course.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 204 (6 credit hours)****Medical Surgical Nursing II**

Applies nursing process and core components of nursing practice to selected patients experiencing actual or potential alterations in health emphasizing the concepts of circulation and perfusion, urinary elimination, coordination, neurological and perception, and multi-system failure. Strengthens the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 4 credits (60 contact hours) Lab/Clinical: 2 credits (90 contact hours).

**Pre-requisite:** (BIO 135 or BIO 139) and NPN 106 and NPN 108 and NPN 125 with a grade of "C" or better in each course.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 205 (5 credit hours)****Med Surg II**

Applies nursing process and core components of nursing practice to selected patients experiencing actual or potential alterations in health emphasizing the concepts of cellular deviation, fluid and electrolytes, neurological and perception, and multi-system failure. Strengthens the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 3.0 credits (45 contact hours); Lab/Clinical: 2.0 credits (90 contact hours/45:1 ratio).

**Pre-requisite:** NPN 200 with a grade of "C" or better.

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 206 (6 credit hours)****Med-Surg II Alterations**

Applies nursing process across the lifespan to complex health issues related to multi-system failure, neurological disorders, coordination dysfunctions, and elimination problems. Integrates the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 4.0 credits (60 contact hours). Lab/Clinical: 2.0 credits (90 contact hours).

**Pre-requisite:** NPN 202 with a grade of "C" or better.

**Pre- or co-requisite:** NPN 201 with a grade of "C" or better.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 208 (10 credit hours)****Nursing Care II**

Applies nursing process to selected child/adult clients experiencing common health deviations related to metabolic dysfunctions, complex cardiovascular dysfunctions, cellular deviations and complex health issues related to multi-system failure, neurological disorders, coordination dysfunctions, and elimination problems that interfere with activities of daily. Prerequisite: BIO 137, BIO 139, NPN 106, NPN 108, and NPN 125 with a grade of "C" or greater. Pre-requisite or Lecture: 6 credits (90 contact hours). Laboratory: 4 credits (180 contact hours).

**Co-requisite:** NPN 140 and NPN 201 with a grade of "C" or better.

**Attributes:** Course Also Offered in Modules

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

**NPN 210 (4 credit hours)****Clinical Practicum**

Integrates the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN) to provide direct care of clients in an integrated practicum experience. Provides the student the opportunity to incorporate theoretical concepts learned throughout the program in a concentrated clinical experience of direct patient care in a healthcare facility or healthcare organization. NPN 210 is the capstone course focusing on role transition and must be successfully completed in the final semester of the practical nursing program. (201 KAR 20: 320). Pathway 2: NPN 201 and NPN 206 with a grade of "C" or better in each course. Or consent of PN coordinator. Lecture: 1.0 credit (15 contact hours); Practicum: 3.0 credits (45:1 ratio/ 135 contact hours).

**Pre-requisite:** Pathway 1: NPN 205 with a grade of "C" or better.

**Pre- or co-requisite:** Pathway 3: NPN 204 and NPN 225 with a grade of "C" or better in each course.

**Attributes:** Digital Literacy, Course Also Offered in Modules, Technical

**Components:** LEC: Lecture, PCM: Practicum

**NPN 215 (1 credit hours)****Nursing Trends & Issues**

Prepares the student for the role and responsibilities of the licensed practical nurse. Explores specific state regulations and statutes that define the license practical nurse scope of practice. Analyzes the role transition from student to graduate practice with focus on professionalism and the employment process. Integrates the four competencies of practical nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Pathway 2: NPN 125 and NPN 135 and NPN 202 with grade of "C" or better in each course. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** Pathway 1: NPN 125 and NPN 116 and NPN 135 and NPN 201 with grade of "C" or better in each course.

**Pre- or co-requisite:** Pathway 2: NPN 201 and NPN 206 and NPN 210 with grade of "C" or better in each course.

**Attributes:** Digital Literacy, Course Also Offered in Modules, Technical

**Components:** CLN: Clinical, LEC: Lecture

**NPN 225 (2 credit hours)****Nursing Leadership and Management**

Prepares the student for the role of practical nurse and entry into practice, as well as focuses on the principles of management and leadership in the delivery of healthcare. An overview of leadership styles and management concepts assists the student in understanding legal and ethical implications of the role of professional nurse, cost effective care, quality improvement, and coordinating patient care. Includes content on seeking employment, conflict resolution, team building, delegation, time management, and disaster planning. Validates the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry and Quality and Safety Education for Nurses (QSEN). Lecture: 2 credits (30 contact hours).

**Pre- or co-requisite:** NPN 203 and NPN 204 and NPN 201 with a grade of "C" or better in each course.

**Attributes:** Technical

**Components:** LEC: Lecture

# Profession Studio Artist Music (PSM)

## PSM 101 (3 credit hours)

### Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin

Provides an overview of traditional instruments and their geographic and cultural origins as they relate to the foundation of bluegrass and traditional music genres. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## PSM 105 (1 credit hours)

### Recording I

Introduces recording and sound reproduction history, terminology, equipment, and practical session experience. Lab: 1.0 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## PSM 107 (1 credit hours)

### Songwriting I

Introduces the process of creating original melodies and lyrics under the direction of a professional songwriter. Lab: 1.0 credit (30 contact hours).

**Components:** LAB: Laboratory

## PSM 112 (1 credit hours)

### Individual Stringed Instrument Instruction

Provides an individual stringed instrument study course under the guidance of an experienced professional instructor. Designed to teach performance techniques in a flexible structure. May be repeated with different subtitle for a maximum of 4 credits. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Audition.

**Attributes:** Technical

**Components:** LAB: Laboratory

## PSM 113 (1 credit hours)

### Guitar I

Teaches basic fundamentals of bluegrass and traditional chords, rhythm and simple flat-picking lead along with standard tuning and set-up tips. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** MUS 174 or Consent of Instructor.

**Components:** LAB: Laboratory

## PSM 114 (2 credit hours)

### Bluegrass & Traditional Band/Ensemble

Pairs two or more instrumentalists in a group/ensemble setting, in order to explore the components and structure of a band under the guidance of a professional band leader. May be repeated with different subtitle for a maximum of 8 credits. Lab: 2.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## PSM 117 (1 credit hours)

### Songwriting II

Provides guidance through the process of creating and refining original melodies and lyrics under the direction of a professional songwriter, emphasizing different techniques while overcoming barriers. Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** PSM 107 or Consent of Instructor.

**Components:** LAB: Laboratory

## PSM 118 (2 credit hours)

### Bluegrass & Traditional Harmony/Part Singing

Introduces basic bluegrass and traditional harmony/part singing and theory using ear training, number notation and basic chords. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** MUS 174 or Consent of Instructor.

**Components:** LAB: Laboratory

## PSM 121 (3 credit hours)

### Bluegrass & Traditional Music History II: Evolution of Old Time, Folk and Early Bluegrass

Provides an in-depth study of old time, folk and early bluegrass music genres and their components, exploring connections between radio, labor conflict, war and early professional musicians. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSM 101 or Consent of Instructor.

**Components:** LEC: Lecture

## PSM 125 (1 credit hours)

### Recording II

Provides practical studio and set-up training for recording sessions utilizing software and computers. Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** PSM 105 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

## PSM 217 (2 credit hours)

### Songwriting III

Provides guidance through the process of creating and refining original melodies, lyrics and music under the direction of a professional songwriter, emphasizing writing for specific media and multi-writer collaboration. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** PSM 117 or Consent of Instructor.

**Components:** LAB: Laboratory

## PSM 227 (2 credit hours)

### Songwriting IV

Provides guidance through the process of creating an effective demo and marketing original songs under the direction of a professional songwriter, emphasizing the completed demo project. Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** PSM 217 or Consent of Instructor.

**Components:** LAB: Laboratory

## PSM 231 (3 credit hours)

### Bluegrass & Traditional Music History III: Early Stringband & Country Music

Provides an in-depth study of early stringband, country music and promotion pioneers, focusing on the role of early radio and barndances. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSM 121 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## PSM 235 (2 credit hours)

### Recording III

Provides an in-depth study of computer and Pro Tools software, recording techniques and applications. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** PSM 125 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**PSM 241 (3 credit hours)****Bluegrass & Traditional Music History IV: The Masters & Their Music**

Provides a comprehensive study of the music and careers of the iconic figures in bluegrass & traditional music from 1936 to present. Requires listening to recordings, reading the primary text, and reading suggested articles from industry periodicals. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSM 231.

**Components:** LEC: Lecture

**PSM 245 (2 credit hours)****Recording IV**

Provides an advanced and complex study of recording, mixing and editing software session data to finished products. Laboratory: 2.0 credits (60 contact hours).

**Pre-requisite:** PSM 235 or Consent of Instructor.

**Components:** LAB: Laboratory

**PSM 250 (3 credit hours)****Field Experience/Production/Business**

Designed to give a wide variety of practical, hands-on work experience in the bluegrass and traditional music field. (Companion course to PSA 240). Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Due to Inactivity

**Components:** LAB: Laboratory, LEC: Lecture

## Project Lead The Way (PLW)

**PLW 100 (4 credit hours)****Introduction to Engineering Design**

Provides an introduction to the engineering profession, engineering disciplines, and technology. Emphasizes a "problem-solving" approach, engineering design process, and team projects. Lecture/Lab: 4.0 credits (150 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**PLW 125 (4 credit hours)****Principles of Engineering**

Students will be introduced to various types of engineering, engineering communications, various design processes, types of engineering systems, statics, materials, and strength of materials, engineering for reliability, and kinematics. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW 100.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLW 130 (4 credit hours)****Principles of Biomedical Sciences**

Engages students in the study of human medicine, research processes and an introduction to bioinformatics. Exposes students to investigations of human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. Includes analysis of key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, the relationship of structure to function and defense against disease. Outlines all the courses in the Biomedical Sciences' program and to lay the scientific foundation necessary for student success in the subsequent courses. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** Reading, English, and Mathematics assessment exam scores above the KCTCS transitional placement level or successful completion of the prescribed transitional course(s).

**Attributes:** Technical

**Components:** LEC: Lecture

**PLW 135 (4 credit hours)****Principles of Human Body Systems**

Emphasizes the study of human body systems investigating identity, communication, power, movement, protection, and homeostasis. Uses experiments that investigate the structures and functions of the human body and uses data acquisition software to monitor body functions. Explores science in action as students build organs and tissues on a skeletal model, work through real-world cases, and role-play biomedical professionals to solve medical mysteries. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW 130.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLW 140 (4 credit hours)****Medical Interventions**

Focuses on exploring a variety of interventions involved in the prevention, diagnosis and treatment of disease. Uses a How-To manual to introduce prevention of and fighting of infection; how to screen and evaluate the code in human DNA; how to prevent, diagnose and treat cancer; and how to prevail when the organs of the body begin to fail. Examines lifestyle choices and preventive measures that influence health and highlights the important roles scientific thinking and engineering design play in the development of interventions of the future are examined. Lecture: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW 135.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLW 145 (4 credit hours)****Biomedical Innovation**

Leads students to apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences in a capstone course. Facilitates student design of innovative solutions for the health challenges of the 21st century in areas such as clinical medicine, physiology, biomedical engineering, and public health. Provides the opportunity to work on an independent project with a mentor, or advisor from a university, hospital, physician's office, or health industry provider. Students present their work to an adult audience including representatives from the local business and healthcare community. Lecture/Lab: 4 credits (150 contact hours).

**Pre-requisite:** PLW 140.

**Attributes:** Technical

**Components:** LEC: Lecture



**PLW 150 (4 credit hours)****Digital Electronics**

This course uses computer simulations and hands on laboratory to teach students about the logic of electronics as they design, test, and construct electronic circuits and devices. Lecture: 1 credit (15 contact hours). Lab: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**PLW 200 (4 credit hours)****Aerospace Engineering**

The major focus of the Aerospace Engineering<sup>TM</sup> (AE) course is to expose students to the world of aeronautics, flight, and engineering. They will employ engineering and scientific concepts in the solution of aerospace problems. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW-100, PLW-125, and PLW-150.

**Components:** LEC: Lecture

**PLW 225 (4 credit hours)****Civil Engineering and Architecture**

The major focus of the Civil Engineering and Architecture<sup>TM</sup> (CEA) course is a long-term project that involves the development of a local property site. As students learn about various aspects of civil engineering and architecture, they apply what they learn to the design and development of this property. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW-100, PLW-125, and PLW-150.

**Attributes:** Technical

**Components:** LEC: Lecture

**PLW 250 (4 credit hours)****Computer Integrated Manufacturing**

The purpose of the Computer Integrated Manufacturing course is to expose students to the fundamentals of computerized manufacturing technology. The course includes: Computer Modeling; CNC Equipment; CAM Software; Robotics; and Flexible Manufacturing Systems. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW-100, PLW-125, and PLW-150.

**Components:** LEC: Lecture

**PLW 295 (4 credit hours)****Engineering Design and Development**

Engineering student teams research, design, and construct a solution to open-ended engineering problem using product development lifecycle and the design process; presentation to defend solutions to a panel of outside reviewers. Lecture/Lab: 4.0 credits (150 contact hours).

**Pre-requisite:** PLW 150 AND one of the following: PLW 200, OR PLW 225, OR PLW 250, OR Consent of the APC and/or Instructor.

**Components:** LEC: Lecture

## Psychology (PSY)

**PSY 110 (3 credit hours)****General Psychology**

Introduces the history, methods and content of modern psychology. Covers the history and systems of psychology, psychological research, physiological psychology, psychological processes, developmental psychology, personality, abnormal behavior and social psychology. Lecture: 3 credits (45 contact hours).

**Pre- or co-requisite:** Current placement scores for college level reading established by KCTCS or completion of, or concurrent enrollment in, transitional reading course(s).

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**PSY 180 (3 credit hours)****Human Relations**

Explores the sociological and psychological forces that affect interpersonal relationships as individuals work and live together. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** ACT, COMPASS, or ASSET scores for college level reading OR completion of Transitional reading course(s).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**PSY 185 (3 credit hours)****Human Potential**

Introduces the principles of relating to self and others and focuses upon self-growth. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**PSY 188 (1 credit hours)****Directed Undergraduate Reading in Psychology**

Explores in-depth a specific topic related to the student's personal or career interests in psychology under the direction of a faculty member. Reading proposal must be approved by instructor. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** PSY 110 and consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**PSY 189 (1-2 credit hours)****Directed Undergraduate Research in Psychology**

Requires students to design and conduct an elementary research project relevant to the student's personal or career interests in psychology under the direction of a faculty member. Requires development of a psychology literature review. Research proposal must be approved by instructor. 0 credits (30-60 contact hours).

**Pre-requisite:** PSY 213 and consent of instructor (If PSY 215 is changed to PSY 213 Research Methods) Laboratory: 1.0 - 2.

**Attributes:** Other

**Components:** LAB: Laboratory

**PSY 212 (4 credit hours)****Applications of Statistics in Psychology**

Introduces students to descriptive and inferential statistics in design, analysis, and interpretation of psychological research. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** ACT, COMPASS, or ASSET score for college level mathematics or completion of Transitional math course(s); PSY 110.

**Attributes:** Other

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**PSY 213 (4 credit hours)****Research Methods**

Applies scientific methods to psychological research. Provides practical experience in designing and executing a research project using observational, survey, and/or true experimental design methodologies. Requires application of descriptive and inferential statistics and written report of research project results. Lecture/Lab: 4.0 credits (75 contact hours).

**Pre-requisite:** PSY 110.

**Attributes:** Other

**Components:** LEC: Lecture

**PSY 223 (3 credit hours)****Developmental Psychology**

Examines physical, cognitive, emotional, and social development throughout the lifespan from conception to death. Reviews concepts, principles, and theories of developmental psychology. Explores influences upon psychological development such as heredity, culture, ethnicity, socioeconomic status, and gender. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSY 100 or PSY 110.

**Attributes:** SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

**PSY 230 (3 credit hours)****Psychosocial Aspects of Death and Dying**

Examines the biophysiological, psychological, sociological, and cultural aspects of death and dying in the evolving global world. Explores variations in the behaviors and attitudes associated with death, dying, and bereavement, with particular attention to the contexts (e.g., cultural, familial, historical, life span developmental) in which these variations occur. Lecture: 3.0 credits (45 contact hours)

**Pre-requisite:** PSY 110 or SOC 101, or consent of instructor.

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**PSY 297 (3 credit hours)****Psychology of Aging**

Provides an overview of the demographics of aging, theories of aging and research methods used to study adult development. Examines the biological, psychological and social impact of aging, longevity work, retirement, death and bereavement. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PSY 110 or consent of instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**PSY 298 (3 credit hours)****Essentials of Abnormal Psychology**

Provides an overview of the theories, diagnoses, and treatments of psychological disorders. Covers the biological, psychological, and social factors that influence the etiology, understanding, and management of psychopathology within society. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** PSY 110 or Consent of Instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**PSY 299 (1-3 credit hours)****Special Introductory Topics in Psychology**

Introduces specialized topics in the field of psychology to meet current trends and investigations of contemporary issues in the discipline. May be repeated to a maximum of six credits under different subtitles. Lecture: 1.0 - 3.0 credits (15 - 45 contact hours).

**Pre-requisite:** PSY 110 or consent of instructor.

**Attributes:** Other

**Components:** LEC: Lecture

**PSY 2231 (0.6 credit hours)****Foundations of Development**

Introduces the principles of developmental psychology with emphasis on theory and data relating to the physical, cognitive, and psycho-social developmental aspects. Explores prenatal development through the birth process. Lecture: 0.6 credit (9 contact hours).

**Pre-requisite:** PSY 110.

**Components:** LEC: Lecture

**PSY 2232 (0.6 credit hours)****Infancy through Early Childhood**

Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of infancy, toddlerhood, and early childhood. Lecture: 0.6 credit (9 contact hours).

**Pre-requisite:** PSY 2231.

**Components:** LEC: Lecture

**PSY 2233 (0.6 credit hours)****Middle Childhood & Adolescence**

Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of middle childhood and adolescence. Lecture: 0.6 credit (9 contact hours).

**Pre-requisite:** PSY 2232.

**Components:** LEC: Lecture

**PSY 2234 (0.6 credit hours)****Emerging and Middle Adulthood**

Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of emerging and middle adulthood. Lecture: 0.6 credit (9 contact hours).

**Pre-requisite:** PSY 2233.

**Components:** LEC: Lecture

**PSY 2235 (0.6 credit hours)****Late Adulthood; Death & Dying**

Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of late adulthood. Explores issues related to death and bereavement. Lecture: 0.6 credit (9 contact hours).

**Pre-requisite:** PSY 2234.

**Components:** LEC: Lecture

## Quality Management Systems (QMS)

**QMS 101 (3 credit hours)****Introduction to Quality Systems**

Students are introduced to fundamental concepts, principles, and practices used to improve quality in organizations. The need for organizational change is reviewed and paradigms of quality are introduced. An overview of areas of change, methods of quality planning, and methods for implementing quality policies are provided. Students will practice problem solving techniques, make decisions based on data, work in teams, troubleshoot, and demonstrate knowledge of implementing continuous improvement processes. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**QMS 202 (3 credit hours)****Performance Management**

Students are introduced to a systematic, data-oriented approach to managing people for maximizing performance and quality. Data are used to measure and evaluate effectiveness of performance. Organizational and individual behavior will be studied in the context of increasing performance and quality. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

**QMS 210 (3 credit hours)****Lean Processes**

Introduces the concepts and skills of lean processing for manufacturing and service settings. Covers organizational readiness, 5S, value stream mapping, kaizen, and visual workplace. Examines the implementation of processing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** QMS 101 or Consent of Instructor and MA 109 or MT 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**QMS 212 (3 credit hours)****Project Management**

Provides insight into concepts and skills required to design the infrastructure for the successful planning, scheduling, and launching of a project. Promotes skills necessary to improve coordination of organizational resources, create effective teams, operate efficiently in a rapidly changing world, and minimize internal problems of system start ups. Teaches techniques to gain organizational acceptance for projects. Lecture: 3 Credits (45 contact hours).

**Pre-requisite:** QMS 101 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**QMS 220 (3 credit hours)****Quality Audits**

Involves an in-depth examination of the function of planning, organizing, and conducting quality audits. Emphasizes planning, implementing, and reporting results of quality audits and taking corrective action. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** QMS 101 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**QMS 240 (3 credit hours)****Statistics for Quality I**

Introduces methods of organizing information about processes. Examines presentation, description, and analysis of data. Emphasizes handling and interpreting numerical information, including histograms and control charts. Presents and applies concepts of probability to control charts to promote process understanding to improve quality of products and service. Investigates sampling principles. Uses computer generated analyses. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MA 109 or MT 150.

**Attributes:** Technical

**Components:** LEC: Lecture

## Radiography (IMG)

**IMG 100 (7 credit hours)****Radiography I**

Emphasizes the historical perspective, professional ethics, introductory imaging equipment, patient care, interpersonal communications and the role of the radiographer as the member of the healthcare team. Applies the principles of human anatomy to the study of fundamental radiographic procedures (exposure factors and patient positioning) used for diverse populations. Covers procedures of the chest, abdomen, extremities, shoulder girdle, bony thorax, and pelvic girdle. Lecture: 6.0 credits (90 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** Admissions to the radiography program and BIO 139 with a minimum grade of "C".

**Co-requisite:** IMG 101.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 101 (4 credit hours)****Clinical I**

Focus on the application and evaluation of radiography in the clinical setting. Integrates concepts and knowledge of anatomy, pathology, procedures, patient care, and imaging principles. Develops technical and procedural knowledge through observation and participation in radiographic studies. Clinical: 4.0 credits (240 contact hours).

**Pre-requisite:** Admissions to the radiography program and BIO 139 with a minimum grade of "C".

**Co-requisite:** IMG 100.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 104 (2 credit hours)****Introduction to Radiography**

Provides an overview of the foundations of radiography and the practitioner's role in health care delivery. Examines the principles, practices, and policies of health care organizations, in addition to the professional responsibilities of the radiographer. Incorporates basic tube function and radiation protection, as well as legal and ethical considerations. Provides a brief overview of other imaging modalities and patient treatments. If taken as a Pre-requisite, a minimum grade of C is required. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** BIO 137 with a minimum grade of C.

**Pre- or co-requisite:** BIO 139.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 106 (2 credit hours)****Patient Care in Radiography**

Provides the concepts of optimal patient care, including consideration for the physical and psychological needs of the patient and family. Describes routine and emergency patient care procedures, as well as infection control procedures using standard precautions. Identifies the role of the radiographer in patient education. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** BIO 137.

**Pre- or co-requisite:** BIO 139.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 108 (4 credit hours)****Radiographic Procedures I**

Provides the knowledge base necessary to perform imaging procedures of the upper extremities and shoulder girdle, lower extremities and pelvic girdle, bony thorax, chest, upper airway, and plain abdomen. Covers criteria for optimal diagnostic images, including anatomical structures shown, as well as corrective positioning action to be taken for sub-optimal images. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

**Pre-requisite:** BIO 137.

**Pre- or co-requisite:** BIO 139.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 109 (1 credit hours)****Clinical Practice I**

Designed to sequentially develop, apply, critically analyze, integrate, synthesize, and evaluate concepts and theories in the performance of radiologic procedures. Examines patient-centered clinical practice and professional development through competency-based clinical assignments and concepts of team practice. Provides patient care and assessment, competent performance of radiologic imaging and total quality management. Focuses on the upper and lower extremities, bony and visceral thorax, and abdomen. Clinical: 1.0 credit (60 contact hours).

**Pre-requisite:** BIO 137.

**Pre- or co-requisite:** BIO 139.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 110 (7 credit hours)****Radiography II**

Emphasizes radiographic imaging, related technical factors, and accessories. Includes procedures for the basic and complex skulls, vertebral column, abdomen/GI studies and Urological studies. Considers special radiographic examinations and equipment. Concludes with a detailed discussion of digital imaging and associated topics. Lecture: 6.0 credits (90 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 100 with a minimum grade of "C".

**Co-requisite:** IMG 111.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 111 (4 credit hours)****Clinical II**

Continues IMG 101 by focusing on the application and evaluation of radiography in the clinical setting. Integrates concepts and the knowledge of anatomy, pathology, procedures, patient care, and imaging principles. Develops technical skills and procedural knowledge through observation and participation in radiographic studies with opportunities for more responsibility and independence with previously learned procedures. Clinical: 4.0 credits (240 contact hours).

**Pre-requisite:** IMG 101 with a minimum grade of "C".

**Co-requisite:** IMG 110.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 114 (2 credit hours)****Image Production & Acquisition**

Establishes a basic knowledge of atomic structure and terminology. Presents the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter. Establishes a knowledge base in factors that govern the image production process. Imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Includes factors that impact image acquisition, display, archiving and retrieval are discussed. Presents the principles of digital system quality assurance and maintenance. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 104, IMG 106, IMG 108 and IMG 109.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 116 (2 credit hours)****Advanced Patient Care in Radiography**

Provides basic concepts of pharmacology, venipuncture and administration of diagnostic contrast agents. Explains the classification and scheduling of drugs. Emphasizes the appropriate delivery of patient care during radiographic procedures requiring the administration of contrast agents. Provides the knowledge base and practical skills necessary to perform special diagnostic studies. Covers fluoroscopic procedures requiring informed consent, aseptic technique, and the administration of various contrast media. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 104, IMG 106, IMG 108 and IMG 109.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 118 (4 credit hours)****Radiographic Procedures II**

Provides the knowledge base necessary to perform standard imaging procedures of the spine, cranium, facial bones, paranasal sinuses, upper gastrointestinal, lower gastrointestinal, urinary system, as well as fluoroscopic procedures requiring informed consent, aseptic technique, and the administration of various contrast media. Covers criteria for optimal diagnostic images, including anatomical structures shown, as well as corrective positioning action to be taken for sub-optimal images. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 104, IMG 106, IMG 108 and IMG 109.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 119 (3 credit hours)****Clinical Practice II**

Continues the IMG 109 clinical experience. Designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary system. Clinical: 3.0 credits (180 contact hours).

**Pre-requisite:** IMG 104, IMG 106, IMG 108 and IMG 109.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 201 (3 credit hours)****Clinical III**

Continues IMG 111 by focusing on the application and evaluation of radiography in the clinical setting. Integrates concepts and the knowledge of anatomy, pathology, procedures, patient care, and imaging principles. Emphasizes on radiographic mobile studies and image analysis. Develops technical skills and procedural knowledge through observation and participation in radiographic studies with opportunities for more responsibility and independence with previously learned procedures. Clinical: 3.0 credits (180 contact hours).

**Pre-requisite:** IMG 111 with a minimum grade of "C".

**Attributes:** Technical

**Components:** CLN: Clinical



**IMG 209 (3 credit hours)****Clinical Practice III**

Continues the IMG 119 clinical experience. Designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary systems, as well as surgical radiographic procedures. Clinical: 3.0 credits (180 contact hours).

**Pre-requisite:** IMG 114, IMG 116, IMG 118 and IMG 119.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 210 (4 credit hours)****Radiography IV**

Covers radiographic imaging methods examining the imaging process as a sequence of events of x-ray production through hard copy processing. Discussion of the image equipment in terms of function, influences on the image, and the impact of alterations on image characteristics. Empathizes on fluoroscopic equipment and QC/QA. Enhances and complements the concurrent clinical experiences of the student. Lecture: 3.0 credit (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 201 with a minimum grade of "C".

**Co-requisite:** IMG 211.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 211 (6 credit hours)****Clinical IV**

Continues IMG 201 by focusing on the application and evaluation of radiography in the clinical setting. Integrates concepts and the knowledge of anatomy, pathology, procedures, patient care, and imaging principles. Develops technical skills and procedural knowledge through observation and participation in radiographic studies with opportunities for more responsibility and independence with previously learned procedures. Clinical: 6.0 credits (360 contact hours).

**Pre-requisite:** IMG 201 with a minimum grade of "C".

**Co-requisite:** IMG 210.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 214 (2 credit hours)****Imaging Equipment**

Establishes a knowledge base in radiographic, fluoroscopic, and mobile equipment requirements and design. Provides a basic knowledge of quality control. Imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Discusses factors that impact image acquisition, display, archiving and retrieval. Presents the principles of digital system quality assurance and maintenance. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 209.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 216 (1 credit hours)****Basic Computed Tomography**

Provides entry-level radiography students with an introduction to and basic understanding of the operation of a computed tomography (CT) device. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** IMG 209.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 219 (6 credit hours)****Clinical Practice IV**

Continues the IMG 209 clinical experience. Designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary systems, surgical radiographic procedures and special diagnostic procedures such as myelograms, arthrograms, hepatobiliary studies, and venography. Clinical: 6.0 credits (360 contact hours).

**Pre-requisite:** IMG 209.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 220 (4 credit hours)****Radiography V**

Re-introduces advanced modalities used to complement diagnosis images. Covers the principles of radiation biology, radiation protection, pathology, pharmacology principles and systemic classification of diseases. Continues the discussion of professional and legal standards needed to practice by reviewing radiographic topics in preparation for a career as an imaging professional. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

**Pre-requisite:** IMG 210 with a minimum grade of "C".

**Co-requisite:** IMG 221.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**IMG 221 (6 credit hours)****Clinical V**

Continues IMG 211 by focusing on the application and evaluation of radiography in the clinical setting. Integrates concepts and the knowledge of anatomy, pathology, procedures, patient care, and imaging principles. Develops technical skills and procedural knowledge through observation and participation in radiographic studies with opportunities for more responsibility and independence with previously learned procedures. Clinical: 6.0 credits (360 contact hours).

**Pre-requisite:** IMG 211 with a minimum grade of "C".

**Co-requisite:** IMG 220.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 224 (2 credit hours)****Radiation Protection & Biology**

Provides an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole are presented. Discusses factors affecting biological response, including acute and chronic effects of radiation. Presents an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public. Incorporates radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** IMG 214 and IMG 216 and IMG 219.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 226 (1 credit hours)****Radiographic Pathology**

Introduces concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection. Lecture: 1.0 credit (15 contact hours).

**Pre-requisite:** IMG 214 and IMG 216 and IMG 219.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 228 (2 credit hours)****Radiography Seminar**

Provides capstone information needed by the entry level radiographer; includes the radiography practitioner's role in the health care delivery system, continuing education, and professional development, advanced modalities, accreditation organizations, national registration and state licensure, as well as the benefits of membership and activity in professional societies. Examines the principles, practices, and policies of health care organizations, and the delivery of health care in the United States. Lecture: 2.0 credits (30 contact hours).

**Pre-requisite:** IMG 214, IMG 216 and IMG 219.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 229 (6 credit hours)****Clinical Practice V**

Continues the IMG 219 clinical experience. Designed to sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary systems, surgical radiographic procedures, and special diagnostic procedures such as myelograms, arthrograms, hepatobiliary studies, and venography. Clinical: 6.0 credits (360 contact hours).

**Pre-requisite:** IMG 214, IMG 216 and IMG 219.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 230 (3 credit hours)****Sectional Anatomy for Advanced Medical Imaging**

Provides content on computed tomography and magnetic resonance imaging (CT/MRI) procedures including patient care, image acquisition, and cross sectional anatomy. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((IMG 201 or IMG 216 or DMI 130) with a minimum grade of C) or consent of instructor defined by enrollment in an accredited Nuclear Medicine program or enrollment in second year of an accredited Radiography program or ARRT registry or NMTCB registry.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 240 (3 credit hours)****Pathology for Advanced Medical Imaging Modalities**

Examines diseases commonly diagnosable via computed tomography (CT) and/or magnetic resonance imaging (MRI). Traces the disease or trauma process from its description, etiology, symptoms, and diagnosis with appearance on CT and/or MRI scans. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((IMG 201 or IMG 216 or DMI 130) with a minimum grade of C) or consent of instructor defined by enrollment in an accredited Nuclear Medicine program or enrollment in second year of an accredited Radiography program or ARRT registry or NMTCB registry.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 250 (3 credit hours)****Computed Tomography Physics & Instrumentation**

Explores the physical principles and instrumentation involved in computed tomography (CT). Examines the history and evolution of CT, and the physics of radiation and CT. Includes the study of configuration, collimation, functions, processing, and quality of CT systems operations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((IMG 201 or IMG 216 or DMI 130) with a minimum grade of C) or consent of instructor defined by enrollment in an accredited Nuclear Medicine program or enrollment in second year of an accredited Radiography program or ARRT registry or NMTCB registry.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 255 (3 credit hours)****Magnetic Resonance Physics & Instrumentation**

Explores the physical principles and instrumentation involved in magnetic resonance imaging (MRI). Examines the history and evolution of MRI and the physics of radiation and MRI. Includes the study of configuration, collimation, functions, processing, and quality of MRI systems operations. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((IMG 201 or IMG 216 or DMI 130) with a minimum grade of C) or consent of instructor defined by enrollment in an accredited Nuclear Medicine program or enrollment in second year of an accredited Radiography program or ARRT registry or NMTCB registry.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 260 (3 credit hours)****Computed Tomography Imaging Procedures**

Examines the procedures, positioning, and equipment involved in computed tomography (CT) imaging. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((IMG 201 or IMG 216 or DMI 130) with a minimum grade of C) or consent of instructor defined by enrollment in an accredited Nuclear Medicine program or enrollment in second year of an accredited Radiography program or ARRT registry or NMTCB registry.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 265 (3 credit hours)****Magnetic Resonance Imaging Technology**

Focuses on patient care and imaging areas of magnetic resonance imaging (MRI) and magnetic resonance angiography (MRA). Explores topics of image formation, tissue characteristics, resolution, imaging options, and parameters, post processing, and patient characteristics. Discusses specific MRI and MRA exams for image body systems. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** ((IMG 201 or IMG 216 or DMI 130) with a minimum grade of C) or consent of instructor defined by enrollment in an accredited Nuclear Medicine program or enrollment in second year of an accredited Radiography program or ARRT registry or NMTCB registry.

**Attributes:** Technical

**Components:** LEC: Lecture

**IMG 285 (4 credit hours)****Computed Tomography Clinical Practice I**

Provides a structured clinical experience through sequential competency-based assignments that focuses on the upper and lower extremities, bony and visceral thorax, abdominal and pelvic cavities, and cranium. Provides necessary clinical correlation of data acquisition concepts and basic scanning parameters. Clinical: 4.0 credits (240 contact hours).

**Pre-requisite:** ARRT registered as a Radiographer or Nuclear Medicine Technologist, or NMTCB registered as a Nuclear Medicine Technologist, and Kentucky radiography license or a provisional license as a nuclear medicine technologist to perform CT.

**Pre- or co-requisite:** IMG 230, IMG 240, IMG 250 and IMG 260.

**Attributes:** Technical

**Components:** CLN: Clinical

**IMG 295 (4 credit hours)****Clinical Practice in Magnetic Resonance Imaging**

Designed to provide the post-registry radiographer or nuclear medicine technologist with the opportunity to establish clinical competencies in the various categories of MRI, including, the head, neck, thorax, abdomen & pelvis, spine, and musculoskeletal system. Includes experience in quality control procedures, image analysis, and the storage and retrieval of electronic images. Provides clinical experience including magnetic safety, screening of the patient, coworkers, the general public and anyone entering the magnetic scanning room. Pre-Requisites: IMG 255 and IMG 265. Clinical: 4 credits (240 contact hours).

**Attributes:** Technical

**Components:** CLN: Clinical

## Radiologic Technology (DMI)

**DMI 102 (1 credit hours)****Medical Terminology for Radiography**

Provides an introduction to the origins of medical terminology. Introduces a word-building system and discusses medical abbreviations and symbols. Introduces an orientation to understanding radiographic orders and diagnostic report interpretation and related terminology. Lecture: 1 credit hour (15 contact hours).

**Pre-requisite:** Admission to the radiography program.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMI 106 (3 credit hours)****Patient Care and Ethics for Radiographers**

Provides the concepts of optimal patient care, including consideration for the physical and psychological needs of the patient and family. Describes routine and emergency patient care procedures, as well as infection control procedures using standard precautions. Identifies the role of the radiographer in patient education. Provides a foundation in ethics and law related to the practice of medical imaging. Examines a variety of ethical and legal issues found in clinical practice. Lecture: 2 credit hours (30 contact hours) Lab: 1 credit hours (30 contact hours).

**Pre-requisite:** Admission to the radiography program.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMI 108 (4 credit hours)****Radiographic Positioning & Procedures I**

Provides the knowledge base necessary to perform imaging procedures of the upper extremities and shoulder girdle, lower extremities and pelvic girdle, bony thorax, chest, upper airway, and plain abdomen. Covers criteria for optimal diagnostic images, including anatomical structures shown, as well as corrective positioning action to be taken for sub-optimal images. Lecture: 2 credit hours (30 contact hours). Lab: 2 credit hours (60 contact hours).

**Pre-requisite:** BIO 137.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMI 110 (1 credit hours)****Radiography Practicum I**

Designed to sequentially develop, apply, critical analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, and abdomen. Practicum: 1 credit hour (90 contact hour).

**Pre-requisite:** Admission to the radiography program.

**Attributes:** Technical

**Components:** PCM: Practicum

**DMI 112 (3 credit hours)****Principles of X-ray Production, Exposure, and Image Production**

Establishes a basic knowledge of atomic structure and terminology. Presents the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter. Establishes a knowledge base in factors that govern the image production process. Imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Includes factors that impact image acquisition, display, archiving and retrieval are discussed. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** MAT 150 or higher level quantitative reasoning course.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMI 115 (2 credit hours)****Pharmacology for Radiographers**

Provides basic concepts of pharmacology, venipuncture and administration of diagnostic contrast agents. Explains the classification and scheduling of drugs. Emphasizes the appropriate delivery of patient care during radiographic procedures requiring the administration of contrast agents. Lecture: 2 credit hours (30 contact hours).

**Pre-requisite:** DMI 106 & DMI 108.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMI 118 (4 credit hours)****Radiographic Positioning and Procedures II**

Provides the knowledge base necessary to perform standard imaging procedures of the spine, cranium, facial bones, paranasal sinuses, upper gastrointestinal, lower gastrointestinal, and urinary system. Covers criteria for optimal diagnostic images, including anatomical structures shown, as well as corrective positioning action to be taken for sub-optimal images. Lecture: 3 credit hours (45 contact hours). Lab: 1 credit hour (30 contact hours).

**Pre-requisite:** DMI 108.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMI 120 (2 credit hours)****Radiography Practicum II**

Continues the DMI 110 clinical experience. Designed to sequentially develop, apply, critical analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary system. Practicum: 2 credit hours (180 contact hours).

**Pre-requisite:** DMI 110.

**Attributes:** Technical

**Components:** PCM: Practicum

**DMI 128 (3 credit hours)****Radiographic Positioning and Procedures III**

Provides the knowledge base and practical skills necessary to perform special diagnostic studies. Covers fluoroscopic procedures requiring informed consent, aseptic technique, and the administration of various contrast media. Considers the evaluation of optimal diagnostic images. Lecture: 2 credit hours (30 contact hours). Lab: 1 credit hour (30 contact hours).

**Pre-requisite:** DMI 108 & DMI 118.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMI 130 (2 credit hours)****Radiography Practicum III**

Continues the DMI 120 clinical experience. Designed to sequentially develop, apply, critical analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary systems, as well as surgical radiographic procedures. Practicum: 2 credit hours (180 contact hours).

**Pre-requisite:** DMI 120.

**Attributes:** Technical

**Components:** PCM: Practicum

**DMI 212 (3 credit hours)****Radiographic Equipment and Quality Management**

Establishes a knowledge base in design, construction requirement, functions and use of radiographic and fluoroscopic equipment, both fixed and mobile. Explains component and functions of various digital imaging processing and display systems. Provides a basic knowledge of quality control and federal regulation standards of operation for diagnostic radiographic equipment. Presents the principles of digital system quality assurance, quality and data management, and maintenance. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** DMI 112.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**DMI 220 (4 credit hours)****Radiography Practicum IV**

Continues the DMI 130 clinical experience. Designed to sequentially develop, apply, critical analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary systems, surgical radiographic procedures and special diagnostic procedures such as myelograms, arthrograms, hepatobiliary studies, and venography. Practicum: 4 credit hours (360 contact hours).

**Pre-requisite:** DMI 130.

**Attributes:** Technical

**Components:** PCM: Practicum

**DMI 222 (2 credit hours)****Image Analysis**

Provides a basis for analyzing radiographic images. Includes the importance of optimal imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Includes the analysis of actual radiographic images. Lecture: 2 credit hours (30 contact hours).

**Pre-requisite:** DMI 108 & DMI 118.

**Attributes:** Technical

**Components:** LEC: Lecture



**DMI 224 (2 credit hours)****Radiation Protection and Biology for Radiographers**

Presents an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated. Provides an overview of the principles of the interaction or radiation with living systems. Presents radiation effects on molecules, cells, tissues and the whole body. Introduces the factors affecting biological response are presented, including acute and chronic effects of radiation. Lecture: 2 credit hours (30 contact hours).

**Pre-requisite:** DMI 112.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMI 226 (3 credit hours)****Radiographic Anatomy & Pathology**

Introduces concepts related to the classification of disease, etiology, epidemiology, treatment and prognosis. Delineates the appropriate imaging modality for the greatest diagnostic sensitivity. Describes the radiographic appearance of disease and its impact of exposure factor selections. Emphasized normal radiographic anatomy as an indicator and identification of pathologies. Lecture: 3.0 credit hours (45 contact hours).

**Pre-requisite:** DMI 108, DMI 118, & DMI 128.

**Attributes:** Technical

**Components:** LEC: Lecture

**DMI 228 (3 credit hours)****Seminars in Radiography**

Provides capstone information needed by the entry level radiographer; includes the radiography practitioner's role in the health care delivery system, continuing education and professional development, advanced modalities, accreditation organizations, national registration and state licensure, as well as the benefits of membership and activity in professional societies. Examines the principles, practices and policies of health care organizations and the delivery of health care in the United States. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** Final semester in the radiography program.

**Attributes:** Digital Literacy, Technical

**Components:** LEC: Lecture

**DMI 230 (4 credit hours)****Radiography Practicum V**

Continues the DMI 220 clinical experience. Designed to sequentially develop, apply, critical analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Provides structured clinical experience through sequential competency-based assignments that focus on the upper and lower extremities, bony and visceral thorax, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary systems, surgical radiographic procedures and special diagnostic procedures such as myelograms, arthrograms, hepatobiliary studies, and venography. Practicum: 4 credit hours (360 contact hours).

**Pre-requisite:** DMI 220.

**Attributes:** Digital Literacy, Technical

**Components:** PCM: Practicum

## Reading (RDG)

**RDG 20 (3 credit hours)****Improved College Reading**

Improves proficiency in reading comprehension, vocabulary, and critical thinking skills, and prepares students for college and career reading through individualized and/or group instruction practice. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** As determined by KCTCS Placement Policy.

**Attributes:** Remedial - Reading, Course Also Offered in Modules

**Components:** LEC: Lecture

**RDG 30 (3 credit hours)****Reading for the College Classroom**

Improves critical reading skills by developing vocabulary techniques, active reading strategies, comprehension accuracy, and interpretation of visual elements in text. Applies theories and strategies taught in the course to college and career reading materials. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** As determined by KCTCS Placement Policy, or successful completion of RDG 20.

**Attributes:** Remedial - Reading, Course Also Offered in Modules

**Components:** LEC: Lecture

**RDG 41 (1 credit hours)****Reading Laboratory**

Designed to improve reading comprehension, vocabulary, and critical thinking skills. Strategies taught in this course will be applied to college level materials. Lab: 1.0 credit (15 contact hours).

**Pre-requisite:** Compass score 81-83.

**Attributes:** Remedial - Reading

**Components:** LAB: Laboratory

**RDG 100 (1-3 credit hours)****Reading Workshop**

Improves reading comprehension and vocabulary of expository materials by improving student's comprehension processes and reading-related study skills. Applies strategies and skills taught in the course are applied to college level materials. Lecture: 1.0-3.0 credits (15-45 contact hours).

**Pre-requisite:** KCTCS Placement Policy.

**Attributes:** Other, Supplemental Reading

**Components:** LEC: Lecture

**RDG 185 (3 credit hours)****College Reading**

Designed to improve critical reading, thinking, and writing at the college level by identifying the components of expository, persuasive, argumentative, and research text, including the author's use of tone, purpose, biased language and writing patterns. Apply strategies to college level text. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** KCTCS Placement Policy.

**Attributes:** Course Also Offered in Modules, Supplemental Reading

**Components:** LEC: Lecture

# Real Estate (REA)

## REA 100 (3 credit hours)

### Real Estate Principles I

Introduces real estate as a business and as a profession, designed to acquaint the student with the wide range of subjects necessary to the practice of real estate. Includes license law, ethics, purchase and listing agreements, brokerage, deeds, financing, appraisals, mortgages, and real estate property managements. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## REA 120 (3 credit hours)

### Real Estate Marketing

Includes marketing and selling of real estate properties. Emphasizes qualifying prospects, preparing for property showings, negotiating the sale, developing a five-year goal plan, and managing time. Utilizes computer applications. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## REA 121 (3 credit hours)

### Appraising

Addresses appraising residential real estate for loans, estates, condemnations, and listings, and the factors that contribute to the value of real estate. Includes three methods of estimating value with emphasis given to the market data approach. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

## REA 122 (3 credit hours)

### Construction and Blueprints

Includes the basic concepts of construction, design, and blueprint reading. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## REA 200 (3 credit hours)

### Real Estate Principles II

Continues Real Estate Principles I with emphasis on license law, finance, property management, marketing, land planning and development, brokerage management, fair housing, and appraising. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** REA 100.

**Attributes:** Technical

**Components:** LEC: Lecture

## REA 201 (3 credit hours)

### Property Management

Examines the basics of managing income-producing real property. Includes management plans, tenant selection, marketing and advertising, accounting methods, net operating income statements, maintenance, and the Landlord Tenant Act. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** REA 100.

**Components:** LEC: Lecture

## REA 202 (3 credit hours)

### Real Estate Investments I

Introduces various types of real estate investments. Includes a comparison of investments in real estate with other types of investments. Covers basic fundamentals of investment analysis and terminology. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

## REA 203 (3 credit hours)

### Commercial and Industrial Property

Covers classifications of commercial and industrial properties. Includes investment, environment, financing, taxes, depreciation, ownership, cash flow projection, and discount analysis. Integrates computer applications. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

## REA 204 (3 credit hours)

### Land Planning and Development

Includes the specialized field of land planning and development with emphasis on new home construction. Includes market research, site selection and analysis, regulations, financing, earthwork, streets, and landscaping. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

## REA 205 (3 credit hours)

### Farm Brokerage

Includes farm brokerage and specific subjects relating to the sale of farm property. Covers listing, prospecting, showing, financing, negotiating and closing the farm sale as well as the duties of the farm manager. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

## REA 212 (3 credit hours)

### Real Estate Investments II

Includes an analysis of operations and cash flow with detailed instruction on the use and calculation of internal rate of return, financial management rate of return, operational and feasibility analysis, and model investment projections. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** REA 202.

**Components:** LEC: Lecture

## REA 220 (3 credit hours)

### Real Estate Brokerage Management

Includes basic real estate principles and theories as they apply to real estate brokerage management. Includes legal and work environment; brokerage management concepts; employment agreements; personnel selection, compensation, and management; policy manuals; listing and marketing management; and financial control. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## REA 225 (3 credit hours)

### Real Estate Finance

Examines all aspects of real estate finance including financial instruments, financial institutions, buyer qualifications, and mortgage markets. Includes governmental influence, risk analysis, and financing of income-producing properties. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## REA 230 (3 credit hours)

### Real Estate Law

Examines the laws and regulations pertaining to real estate and related environmental issues. Includes ownership rights, title examination, planning and zoning, contracts of sale, Fair Housing regulations, agency issues, court systems and recent court decisions. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Religious Studies (REL)

### REL 101 (3 credit hours)

#### Introduction to Religious Studies

Introduces students to the study of religion, emphasizing the varieties, differences, and similarities of religious experience and expression. Examines the interaction between religious experience and expression and social and cultural contexts through study of selected examples. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

**Components:** LEC: Lecture

### REL 120 (3 credit hours)

#### Introduction to the Old Testament

Introduces books of the Hebrew Bible (Old Testament) using knowledge of literary forms as well as historical and cultural backgrounds to aid in the interpretation of the religious and philosophical meanings of the text. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

### REL 121 (3 credit hours)

#### Introduction to the New Testament

Introduces New Testament using knowledge of literary forms as well as historical and cultural backgrounds to aid in the interpretation of the religious and philosophical meanings of the text. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

### REL 130 (3 credit hours)

#### Introduction to Comparative Religion

Introduces students to a comparative analysis of world religions, emphasizing beliefs, rituals, artistic expressions, and cultural and social organization. Includes both Eastern and Western religions. (Same as ANT 130). Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science, Course Also Offered in Modules

**Components:** LEC: Lecture

### REL 135 (3 credit hours)

#### Christianity in Cultural Context

Surveys the historical and theological movements in Christianity from the 1st century to the mid-16th century. Emphasis will be placed on the interaction of Christian institutions and religious movements with other prevailing social, cultural, and political institutions within this timeframe. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

### REL 150 (3 credit hours)

#### Comparative Ethics of Major World Religions

Examines central theological teachings, modes of ethical reasoning, key ethical virtues and norms of major religious traditions from both Eastern and Western Religions. Considers the lives, sacred stories, dogma and texts of central religious figures as part of the context for moral thinking in a global setting. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

### REL 160 (3 credit hours)

#### Religious Expressions of Forgiveness and Justice

Introduces students to a comparative analysis of world religions, emphasizing the nature of forgiveness and justice and how it is conceptualized and understood in sacred texts, beliefs, rituals, artistic expressions, and cultural and social organizations. Includes both Eastern and Western religions. 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

### REL 170 (3 credit hours)

#### Philosophy of Religion

Introduces students to issues in philosophy of religion including defining the concept of God, arguments for and against the existence of God, the relation between faith and reason, the nature of religious experience, the problem of evil, and immortality. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities, Other

**Components:** LEC: Lecture

### REL 240 (3 credit hours)

#### Life and Teaching of Jesus

Investigates the life and teachings of Jesus of Nazareth through a critical analysis of the ancient sources and modern scholarly reconstructions. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

### REL 241 (3 credit hours)

#### Life and Letters of Paul

Presents the person and thought of the Apostle Paul in social, cultural, political, philosophical, and theological context. Investigates Paul's ethics and his views as preserved in the Christian New Testament. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture

### REL 299 (3 credit hours)

#### Special Topics in Religion: Topic

Examines special topics in Religion. Includes but not limited to individual religious figures, movements, sacred writings, religious traditions and selected eras. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

## Respiratory Care Practitioner (RCP)

### RCP 110 (3 credit hours)

#### Cardiopulmonary Anatomy and Physiology

Provides an in-depth analysis of the respiratory and circulatory systems with emphasis on the interaction of systems in gas exchange and acid-base balance as well as the structure and function of the chest cage, mechanics of breathing and control of respiration. Completion of BIO 137 and ENG 101 with a grade of C or better. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Completion of MAT 110 OR MAT146 OR MAT 150 with a grade of C or better.

**Attributes:** Technical

**Components:** LEC: Lecture

**RCP 120 (4 credit hours)****Theory and Principles of Respiratory Care**

Presents the principles and techniques of therapeutic procedures used in respiratory care, including an emphasis on medical asepsis, safe handling and administration of medical gases, uses of humidity, aerosol therapy, lung inflation techniques, bronchial hygiene therapy and airway care.

Completion of BIO 137 and ENG 101 with a grade of C or better. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** Completion of MAT 110 OR MAT146 OR MAT 150 with a grade of C or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 121 (1 credit hours)****Respiratory Care Practice I**

Emphasizes the health care team and the practice and or performance of techniques of basic respiratory care including airway management and bronchial hygiene. Clinical: 1 credit (60 contact hours).

**Pre- or co-requisite:** RCP 122 with a grade of C or better; Valid Health Care Provider CPR card .

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 122 (4 credit hours)****Fundamentals of Respiratory Care**

Introduces respiratory care including chest physical assessment, medical gas therapy, humidity and aerosol therapy, bronchial hygiene, airway management, medical asepsis and development of the respiratory care plan. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** : [(MAT 110 or MAT 146 or MAT 150) BIO 137 and BIO 139] with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 125 (4 credit hours)****Cardiopulmonary Evaluation**

Examines cardiopulmonary assessment with in-depth coverage of invasive and non-invasive arterial blood gas interpretation, electrocardiography and assessment of chest and neck imaging. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** (RCP 110 and BIO 137 and (MT 110 or MT 145 or MT 150 or equivalent) with a grade of C or better).

**Pre- or co-requisite:** RCP 110.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 135 (1 credit hours)****Respiratory Pharmacology**

Provides an overview of respiratory pharmacological agents and their use in the clinical practice of a respiratory therapist. Lecture: 1 credit hour (15 contact hours).

**Pre-requisite:** Admission to the Respiratory Care Program.

**Attributes:** Technical

**Components:** LEC: Lecture

**RCP 140 (2 credit hours)****Cardiopulmonary Assessment**

Emphasizes blood gas analysis, pulmonary function studies, electrocardiography and chest radiography. Lecture: 1.5 credits (22.50 contact hours). Laboratory: 0.5 credit (15 contact hours).

**Pre-requisite:** [(RCP 110 and RCP 122 and RCP 130) with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 150 (2 credit hours)****Clinical Practice I**

Provides an opportunity for observation and/or performance of techniques for chest physical assessment, medical gas administration, humidity and aerosol therapy and bronchial hygiene in the assigned clinical setting. Clinical: 2 credits (120 contact hours).

**Pre- or co-requisite:** RCP 120 with a grade of C or better; Valid Health Care Provider CPR card.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 175 (3 credit hours)****Clinical Practice II**

Provides an opportunity to participate in the health care team while practicing techniques of respiratory care including airway management and bronchial hygiene in the assigned setting.

**Pre-requisite:** RCP 150 with a grade of C or better; Clinical: 3 credits (180 contact hours).

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 176 (2 credit hours)****Respiratory Care Practice II**

Emphasizes participation in the health care team while practicing techniques of basic respiratory care including airway management and bronchial hygiene. ). Clinical: 2 credits (120 contact hours).

**Pre-requisite:** RCP 110 and RCP 122 and RCP 135 with a grade of C or better or consent of instructor.

**Co-requisite:** RCP 140(If taken as a pre-requisite, a grade of C or better is required).

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 180 (3 credit hours)****Ventilatory Support**

Covers the technological and physiological aspects of mechanical ventilation including the theory of operation, classification, and management of the patient ventilator system. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** RCP 120 and RCP 150 with a grade of C or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 185 (2 credit hours)****Introduction to Mechanical Ventilation**

Introduces the technological aspects of mechanical ventilation including the theory of operation, classification and patient-ventilator system checks. Lecture: 1.5 credits (22.5 contact hours). Laboratory: 0.5 credit (15 contact hours).

**Pre-requisite:** [(RCP 140 and RCP 176) with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 190 (2 credit hours)****Advanced Ventilatory Support**

Addresses advanced concepts in ventilatory support, including physiologic effects, indications, monitoring and management of the patient-ventilator system. Lecture: 1.5 credits (22.5 contact hours); Laboratory: 0.5 credits (30 contact hours).

**Pre-requisite:** RCP 180 with a C or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**RCP 195 (4 credit hours)****Patient-Ventilator System Management**

Addresses advanced concepts in ventilatory support including monitoring and management of the patient-ventilator system. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (60 contact hours).

**Pre-requisite:** [(RCP 185 and RCP 201) with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 200 (3 credit hours)****Clinical Practice III**

Provides practice in adult mechanical ventilation procedures and airway management in the critical care setting and performance of other respiratory care skills. Clinical: 3 credits (180 contact hours).

**Pre-requisite:** RCP 175 with a grade of C or better.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 201 (2 credit hours)****Respiratory Care Practice III**

Provides practice in adult mechanical ventilation procedures and airway management in the critical care setting in addition to continued performance of the basic respiratory care skills. Clinical: 2 credits (120 contact hours).

**Pre-requisite:** [(RCP 140 and RCP 176) with a grade of C or better] or Consent of Instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 204 (3 credit hours)****Emergency & Special Procedures**

Prepares students to participate in advanced emergency life support and special procedures. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credit (30 contact hours).

**Pre- or co-requisite:** RCP 135 and BIO 139 with a grade of C or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 210 (3 credit hours)****Cardiopulmonary Pathophysiology**

Addresses the etiology, diagnosis, clinical manifestations and management of cardiopulmonary disorders as related to respiratory care including the fundamental microbiological principles and their relation to health and disease. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** [RCP 110 or (RCP 201 and RCP 185) with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**RCP 212 (3 credit hours)****Neonatal/Pediatric Respiratory Care**

Provides a study of the special needs of the neonatal and pediatric patient with focus on fetal cardiopulmonary development, evaluation, assessment and treatment of cardiopulmonary conditions and diseases of the neonatal and pediatric patient, as well as equipment unique to this population. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credits (30 contact hours).

**Pre-requisite:** (RCP 185 and RCP 201) with a grade of C or better] or Consent of Instructor.

**Pre- or co-requisite:** RCP 190 with a grade of C or better or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 214 (3 credit hours)****Advanced Diagnostic Procedures**

Prepares students to assist physician in advanced diagnostic, and therapeutic procedures. Lecture: 2.5 credits (37.50 contact hours). Laboratory: 0.5 credits (30 contact hours).

**Pre-requisite:** BIO 139 with a grade of C or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 225 (3 credit hours)****Clinical Practice IV**

Provides observation and practice of advanced cardiopulmonary evaluation techniques while improving efficiency in the ventilatory management of patients. Clinical: 3 credits (180 contact hours).

**Pre-requisite:** RCP 200 with a grade of C or better.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 226 (4 credit hours)****Respiratory Care Practice IV**

Provides observation and practice in advanced cardiopulmonary evaluation techniques while improving efficiency in the ventilatory management of adult patients. Clinical: 4 credits (240 contact hours).

**Pre-requisite:** [(RCP 176 and RCP 185) with a grade of C or better] or Consent of Instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 228 (2 credit hours)****Preventive and Long-Term Respiratory Care**

Covers prevention of cardiopulmonary disorders and care of individuals with long term cardiopulmonary disability. Addresses psychosocial and physical needs of clients with emphasis on improving the quality of life and cardiopulmonary reserve. Lecture: 2 credits (30 contact hours).

**Pre-requisite:** [RCP 110 or (RCP 195 and RCP 210 and RCP 226) with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**RCP 240 (3 credit hours)****Advanced Cardiopulmonary Evaluation**

Addresses cardiopulmonary assessment including hemodynamic monitoring, pulmonary and cardiac exercise/stress testing, advanced cardiac procedures, blood chemistry and fluid and electrolyte balance. Lecture: 2.75 credits (41.25 contact hours). Laboratory: .25 credit (15 contact hours).

**Pre-requisite:** [RCP 195 and RCP 210 and RCP 212, and RCP 226) with a grade of C or better] or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 245 (2 credit hours)****Advanced Cardiac Life Support**

Focuses on managing acute cardiovascular emergencies including cardiac arrest, acute myocardial infarction and stroke. Students demonstrating essential knowledge and skills and obtaining 85% or greater on the written exam will receive an American Heart Association ACLS provider card. Lecture: 1.5 credits (22.50 contact hours). Laboratory: 0.5 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**RCP 250 (3 credit hours)****Clinical Practice V**

Prepares students to participate in effective and efficient planning, managing and delivering respiratory care to diverse client populations in various settings. Clinical: 3 credits (180 contact hours).

**Pre-requisite:** RCP 225 with a grade of C or better.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 251 (4 credit hours)****Respiratory Care Practice V**

Prepares students to plan, manage, and deliver respiratory care to diverse client populations in various settings. Enables students to practice mechanical ventilation techniques and observe/practice techniques of advanced life support. Clinical: 4 credits (240 contact hours).

**Pre-requisite:** [(RCP 195 and RCP 210 and RCP 212 and RCP 226) with a grade of C or better] or Consent of Instructor.

**Attributes:** Technical

**Components:** CLN: Clinical

**RCP 260 (1 credit hours)****Respiratory Care Seminar**

Analyzes material previously studied in the program and prepares students for the National Board for Respiratory Care examination. Addresses job seeking skills. Lecture: 1 credit (15 contact hours).

**Pre-requisite:** [(RCP 200 and RCP210 and RCP 212 and RCP 225) with a grade of C or better] or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**RCP 299 (1-4 credit hours)****Selected Topics in Respiratory Care: (Topic)**

A special project or experience in Respiratory Care will be selected to enhance core material in the Respiratory Care Program. It provides the student and opportunity for independent study and specialized instruction as approved by the instructor. This course may be repeated to a maximum of 6 hours. Lecture: varies.

**Attributes:** Technical

**Components:** LEC: Lecture

## Russian and Eastern Studies (RAE)

**RAE 120 (3 credit hours)****Introduction to Chinese Culture**

Examines economic, political, cultural, and social realities that offer more opportunities and engagement at every level for non-native Chinese people. Includes some basic vocabulary. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**RAE 150 (4 credit hours)****Elementary Chinese I**

Introduces basic modes of communication in Chinese. Stresses speaking, listening, reading and writing as target skills. Emphasizes everyday language which the students will learn by applying essential grammatical structures to vocabulary. Presents an overview of the cultures of China. Lecture: 4.0 credits (60 contact hours).

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**RAE 151 (4 credit hours)****Elementary Chinese II**

Continues the study of basic Chinese through grammar, reading, and oral practice. Stresses speaking and listening as the target skills; reading and writing remain centered on intense and repetitive practice with the pinyin character system. Emphasizes everyday language. Presents an overview of the cultures of China.

**Pre-requisite:** RAE 150 or consent of instructor Lecture: 4 credits (60 contact hours).

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

## Safety and First Aid (SFA)

**SFA 100 (1 credit hours)****Safety and First Aid**

Safety and First Aid is a course designed to teach current strategies relative to designated emergency situations as put forth by the National Safety Council or American Red Cross. The National Safety Council or American Red Cross standardized course qualifies a student for certification in safety and first aid. Lecture: 1 credit (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SFA 101 (3 credit hours)****OSHA, Health, & Environmental Safety**

The basics of OSHA compliance in addition to covering the principles of industrial health and safety, environmental regulations, and industrial requirements with a focus on personal safety and health. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Science (SCI)

**SCI 110 (3 credit hours)****Science and Society**

Introduces contemporary issues in science and its effects on the public sphere. Critically evaluate scientific media as it relates to student's lives and attain a basic understanding behind the philosophy of science. Discuss relevant topics including, but not limited to: Climate Change, Genetically Modified Organisms, Vaccination, Nutrition, Pseudoscience and appropriate Experimental Design. This course is not intended for STEM students. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** College Readiness as indicated by CPE in reading and writing.

**Attributes:** SN - Science

**Components:** LEC: Lecture

**SCI 295 (3 credit hours)****Scientific Investigations**

Real-time, hands-on research projects are carried out using the scientific method. Results of research projects may be presented at the Conference for Student Research, or other scientific meetings. Students prepare research projects for inclusion in a Handbook of Procedures Using the Scientific Method. Mathematics, Reading, and English assessment placement scores above developmental levels or completion of requisite developmental courses. 2. Completion of 3 credit hours of general education science area in which the research project will be carried out with grade of B or higher. 3. Consent of Instructor. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (60 contact hours).

**Pre-requisite:** 1.

**Attributes:** SN - Science

**Components:** LEC: Lecture

## Social Work (SWK)

**SWK 106U (3 credit hours)****Introduction to Social Justice**

This class is an introduction to foundational concepts and ethical concerns in social justice studies. Course that promotes critical thinking, multiple perspectives, and a sense of personal responsibility in the local and global community. This course is the first in the sequence for the social justice minor. Lecture: 3 credits (45 contact hours)

**Attributes:** AH - Arts and Humanities, University Course (Northern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Northern Kentucky University

**SWK 124 (3 credit hours)****Introduction to Social Services**

Introduces social welfare concepts and philosophies. Examines the profession of social work and its philosophy and value commitments within social welfare. Covers public and private service delivery systems. (Recommended for students pursuing university social work programs). Requires completion of service project. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**SWK 180 (3 credit hours)****Introduction to Gerontology**

The major biological, psychological, and sociological issues facing America's aging population are examined. Attention is also focused on the resources available to meet needs of older Americans. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SWK 220 (3 credit hours)****Cultural Diversity in Human Services**

Explores current and historical cultural diversity in human services as it applies to clients from various cultural groups. Focuses on cultural self awareness and cultural competence as it pertains to human services professionals and client helper relationships. Draws attention to dominant and minority cultural norms, attitudes and belief systems including the culture of poverty. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SWK 222 (3 credit hours)****Development of Social Welfare**

Includes cultural traditions, value orientations, and political and economic forces which have contributed to the emergence of present social welfare policies and systems in the United States. (Required of social work majors and open to all others.) Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SWK 255 (3 credit hours)****Introduction to Addictions**

Provides an overview of approaches to understanding addictions with emphasis on the bio-psycho-social model. Analyzes the etiology, progression, and processes involved in change. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PSY 100 or PY 110 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**SWK 260 (3 credit hours)****Crisis Intervention**

Focuses on crisis intervention theory, suicide prevention, and risk assessment techniques. Covers risk assessment protocols, crisis triage, de-escalation and referral. Introduces clinical, ethical and legal aspects. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** PSY 100 or PY 110 or permission from instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**SWK 269 (3 credit hours)****Social Work in the Juvenile Justice System**

The history, nature, and extent of juvenile delinquency are studied including an examination of trends and methods of treatment in contemporary society. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SWK 275 (3 credit hours)****The Family**

Covers the nature and structure of family systems and examination of major family issues. Includes discussion in patterns of family interaction with attention paid to resources designed to meet family needs. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

**SWK 276 (3 credit hours)****Criminology**

The history, nature, and extent of crime are studied, including trends and theories of crime, philosophies and forms of punishment, as well as methods of treatment. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**SWK 281 (3 credit hours)****Psychology of Aging**

A study of the aging process with emphasis on the needs, roles, and attitudes of seniors in our society. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

# Sociology (SOC)

## SOC 101 (3 credit hours)

### Introduction to Sociology

Introduces concepts and methods of sociology including investigation of socialization, group processes, social inequality, social institutions, and social change. Lecture: 3 credits (45 contact hours).

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 151 (3 credit hours)

### Social Interaction

Explores the fundamental sociological and social psychological processes underlying human interaction. Focuses on the dynamics of symbolic exchange, the social context and processes shaping it, and examines its effects on the formation and maintenance of social and personality systems. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SOC 101 or PSY 110 or Consent of Instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 152 (3 credit hours)

### Modern Social Problems

Examines selected social problems of the day from a sociological perspective. Topics may include family, poverty, education, crime, race, housing, population, health care, industrial development, and power. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SOC 101 or SOC 151, or Consent of Instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 205U (3 credit hours)

### Sexualities and Social Issues

Sexualities and Social Issues. (3 credit hours) A. Cross-listed as WGS 205. An examination of the diversity of sexuality and related social issues in the United States and globally. Topics include culture, history, law, mass media, politics, and religion. Credit will not be awarded to students who have credit for WGS 205 or WGS 302. Gen. Ed. E-6 [GE]. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, University Course (Eastern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Eastern Kentucky University

## SOC 220 (3 credit hours)

### The Community

Examines social organization and process in modern communities, both rural and urban; social techniques of community improvement. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Three hours of sociology or Consent of Instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 230 (3 credit hours)

### Deviant Behavior

Continues the nature of societal rules, rule enforcers, and rule breakers. Investigates social issues and research in crime, delinquency, drug addiction, alcoholism, mental illness, pornography, sexuality and other forms of deviance with an emphasis on theoretical explanations and social consequences. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** SOC 101.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 235 (3 credit hours)

### Inequality in Society

Analyzes the nature, development, and persistence of inequality in various societies. Diverse dimensions of inequality are viewed as the basis for a number of specific social problems in Western and non-Western societies. Social origins of inequality are emphasized. Policy implications are addressed. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Three hours of sociology or Consent of Instructor.

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 249 (3 credit hours)

### Media, Society, and Culture

Examines the interplay between media, culture, and society. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** SOC 101 or permission of instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 250 (3 credit hours)

### Sociology of Popular Culture

Explores the development and social significance of various non-elite cultural forms in the U.S., such as music, comic books, movies, and novels. Examines the development of the distinction between "highbrow" and "lowbrow" culture in race, ethnic and other subcultures, deviance, the role of gender differences in popular culture, and recent theories and debates about the relation of culture, society and their impact on social institutions. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SOC 101.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 260 (3 credit hours)

### Population, Resources and Change

Examines the relationship between human social and cultural systems and their environment. Perception, definition and policy responses to environmental, resource and population issues are explored. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SOC 101 or Consent of Instructor.

**Attributes:** SB - Social Behavior Science

**Components:** LEC: Lecture

## SOC 299 (3 credit hours)

### Special Introductory Topics in Sociology

An introductory study of a selected topic in sociology. Topics may include, but are not limited to, industrial sociology, sociology of aging, gender issues, criminology, social inequalities, sociology of families, and rural sociology. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SOC 101 or RSO 102.

**Attributes:** Other

**Components:** LEC: Lecture



# Spanish Language and Literature (SPA)

## SPA 101 (4 credit hours)

### Elementary Spanish I (spoken approach)

Introduces basic modes of communication in Spanish. Stresses speaking, listening, reading and writing as target skills. Emphasizes everyday language which the students will learn by applying essential grammatical structures to vocabulary. Provides instructional assignments and self-correctional exercises that will be practiced in the classroom. Presents an overview of the culture of various Spanish-speaking countries. Lecture: 4 credits (60 contact hours).

**Attributes:** Foreign Language, Cultural Studies, Course Also Offered in Modules

**Components:** LEC: Lecture

## SPA 102 (4 credit hours)

### Elementary Spanish II (spoken approach)

Continues to highlight the basic modes of communication in Spanish, to include present and past tense. Stresses speaking, listening, reading and writing as target skills. Emphasizes everyday language which the students will learn by applying essential grammatical structures to vocabulary. Presents an overview of the culture of various Spanish-speaking countries. Lecture: 4 credits (60 contact hours).

**Pre-requisite:** SPA 101, or consent of the department and placement test.

**Attributes:** Foreign Language, Cultural Studies, Course Also Offered in Modules

**Components:** LEC: Lecture

## SPA 103U (3 credit hours)

### Spanish for High Beginners

This course is designed to review and expand the students' existing knowledge of Spanish at the introductory level in order to prepare them for the intermediate courses. In this course students will build upon their existing skills to further develop abilities in the four basic language and communication skills: listening, speaking, reading, and writing. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Placement test or permission of instructor.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## SPA 110 (3 credit hours)

### Basic Conversational Spanish

Introduces pronunciation, practical structures, and basic vocabulary designed to enable students to communicate using simple Spanish in everyday situations in Spanish-speaking countries and areas of the United States. Cannot be used for major or minor. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

## SPA 115 (3 credit hours)

### Hispanic Culture: (Country or Region)

Introduces the basic cultural patterns of a Spanish-speaking country or region through in-class experience and/or travel. May be taken up to two times with focus on different country or region. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

## SPA 151U (3 credit hours)

### Spanish for Health Professionals

The course will teach Spanish terminology and basic grammar related to medical patients, including vocabulary for diagnosis and treatment. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Prior college or high school Spanish or other experience with the Spanish language roughly equivalent to one semester of college study.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## SPA 201 (3 credit hours)

### Intermediate Spanish I

Focuses on intermediate level speaking, listening, reading, and writing skills with an emphasis on more advanced grammatical structures; emphasizes speaking the language to expand vocabulary; examines current issues, cultural nuances, and dominant Hispanic themes. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SPA 102, or consent of department and placement test.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

## SPA 202 (3 credit hours)

### Intermediate Spanish II

Continues intermediate level speaking, listening, reading, and writing skills from SPA 201 with an emphasis on more advanced grammatical structures; focuses on speaking the language to expand vocabulary; examines current issues, cultural nuances, and dominant Hispanic themes. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SPA 201 or consent of department and placement test.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

## SPA 203U (3 credit hours)

### High Intermediate Spanish

This course is designed to advance students' knowledge of Spanish at the intermediate level by fine-tuning the skills of reading, speaking, listening, and writing. The goal of the course will be to focus on useful vocabulary, to practice functional grammar, to further explore cross-cultural analysis, and to develop students' communicative competence in Spanish. This course is designed for students' transition directly from high school Spanish to second-year college Spanish. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Placement test or permission of instructor.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## SPA 205U (3 credit hours)

### Spanish for Bilingual Students

This course is the entry level for the 'Spanish for Bilingual Students' track. It will cater to the specific academic and communicative needs of two types of students: those described as 'heritage speakers/learners' and those who are 'advanced non-native speaker of Spanish'. This course is exclusively designed for these students and its purpose is to build on the students' existence competence of the native language and to further develop oral, written, reading, and cultural competence for use in different communicative situations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Placement test, oral interview or permission of instructor.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**SPA 208U (3 credit hours)****US Latino Culture and Politics**

This course studies U.S. Latino history and culture, with an emphasis on the evolution of the politics of immigration and the use of Spanish in the United States. These broader issues will be studied with the express intent of determining what they mean for us here in Central Kentucky. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Placement test or permission of instructor.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**SPA 210 (3 credit hours)****Spanish Grammar and Syntax**

Introduction to advanced Spanish grammar and syntax development of Spanish vocabulary and writing skills. Concurrent enrollment in SPA 211 is encouraged. Prerequisite: Spanish 202 or permission of instructor. Lecture: 3 credits (45 contact hours).

**Attributes:** University Course

**Components:** LEC: Lecture

**University Course:** University Course

**SPA 211 (3 credit hours)****Spanish Conversation**

Sections limited to no more than 15 students each. Oral-aural practice in spoken language. Special emphasis placed on the acquisition of idioms and fundamental conversational vocabulary. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SPA 202 or equivalent or consent from the department.

**Attributes:** Technical, University Course

**Components:** LEC: Lecture

**University Course:** University Course

**SPA 215U (3 credit hours)****Written Spanish for Bilingual Students**

This course builds upon the pedagogical basis of SPA 205. It is exclusively designed for bilingual speakers and its purpose is to further refine reading, lexical, and grammatical skills through intensive writing practice in contexts that are meaningful to these speakers. This course will be taught entirely in Spanish. SPA 215 is the equivalent of 210 and 211 and fulfills the pre-major course requirements. Students taking 203 should refrain from taking this course. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SPA 205 with "B" grade or higher, placement test, oral interview or permission of instructor.

**Attributes:** University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## Special Education (SED)

**SED 101 (3 credit hours)****Sign Language I**

Includes a functional-notational approach to a beginning competency in Sign Language. Incorporates syntax, grammar, non-manual markers (behaviors) of sign language, and cultural information. (After an initial orientation period, no verbal communication will be used in the classroom.). Lecture: 3 credits (45 contact hours).

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**SED 102 (3 credit hours)****Sign Language II**

Includes a functional-notational approach designed to follow SED 101 that will enhance student's knowledge of Sign Language and expand their understanding and appreciation of the people who use it. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SED 101.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**SED 203 (3 credit hours)****Sign Language III**

Emphasizes the practical application of signing, skills, development of cross-cultural communication abilities and vocabulary expansion. Reviews linguistic information and introduces additional linguistic materials. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SED 102.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

**SED 204 (3 credit hours)****Sign Language IV**

Continues the expansion of sign vocabulary, sharpening of conversational skills including fingerspelling and numbers, semantics, morphology, syntax and other sign language features applied to conversational settings. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SED 203.

**Attributes:** Foreign Language, Cultural Studies

**Components:** LEC: Lecture

## Statistics (STA)

**STA 111 (3 credit hours)****Sport Statistics**

Introduces students to concepts within the sports world where math and statistics skills are applied. Includes analysis of sports formulas, processes, and calculations. Applies mathematical models and ranking methods to the sports world. Assumes students will have a general knowledge and interest in sports. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** MAT 65.

**Components:** LEC: Lecture

**STA 151 (3 credit hours)****Introduction to Applied Statistics**

Serves as an entry-level introduction to applied statistics useful for a variety of fields. Covers statistical terminology and the appropriate use of software for the calculation of descriptive statistics, basic probability, correlation and linear regression. Emphasizes understanding the uses and misuses of statistics in the real world. (Same as MAT 151.) (Students may not receive credit for both this course and any of the following: MAT 151, STA 200, STA 210, STA 215.) Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** College Readiness in Mathematics.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**STA 210 (3 credit hours)****Statistics: A Force in Human Judgement**

Examines the interaction of the science and art of statistics in everyday life emphasizing examples from the social and behavioral sciences including the nature, scope, limitations, and interpretation of statistics. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 146 or MAT 150 or equivalent.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**STA 210U (3 credit hours)****Making Sense of Uncertainty: An Introduction to Statistical Reasoning**

The goal of this course is to help students develop or refine their statistical literacy skills. Both the informal activity of human inference arising from statistical constructs, as well as the more formal perspectives on statistical inference found in confidence intervals and hypothesis tests are studied. Throughout, the emphasis is on understanding what distinguishes good and bad inferential reasoning in the practical world around us. Lecture: 3.0 credits (45 contact hours).

**Attributes:** QR - Quantitative Reasoning, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

**STA 220 (3 credit hours)****Statistics**

Examines statistical description of sample data including frequency distributions, measures of central tendency, and measures of dispersion. Includes theoretical distributions, statistical estimation, and hypothesis testing. Introduces simple linear regression and correlation. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 150 or equivalent, or MAT 146 or MAT 141 or equivalent with a grade of C or higher.

**Attributes:** QR - Quantitative Reasoning, Course Also Offered in Modules

**Components:** LEC: Lecture

**STA 221 (1 credit hours)****Additional Topics in Statistics**

Serves as an extension of STA 220. Includes additional bivariate statistical topics required at some universities. Pre-requisite or Co-Requisite: STA 220. Lecture: 1 credit (15 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**STA 251 (3 credit hours)****Applied Statistics**

Serves as the completion course in the statistics pathway. Covers principles of probability, discrete and continuous probability distributions, statistical estimation, hypothesis testing, linear regression, comparisons of populations, goodness of fit, and analysis of variance. Software will be used to aid in statistical computations. (Students may not receive credit for both this course and any of the following: STA 200, STA 210, STA 215, STA 220, STA 291.). Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MAT 151 or STA 151 or MAT 161.

**Attributes:** QR - Quantitative Reasoning

**Components:** LEC: Lecture

**STA 296U (3 credit hours)****Statistical Methods and Motivations**

Introduction to principles of statistics with emphasis on conceptual understanding. Students will articulate results of statistical description of sample data (including bivariate), application of probability distributions, confidence interval estimation and hypothesis testing to demonstrate properly contextualized analysis of real-world data. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** MA 113, MA 123, MA 137, or equivalent.

**Attributes:** QR - Quantitative Reasoning, University Course (University of Kentucky)

**Components:** LEC: Lecture

**University Course:** University of Kentucky

## Student Development (SDC)

**SDC 100 (1 credit hours)****College Survival Seminar**

This course is designed to introduce new students to college in order to facilitate a successful college experience. Students will discover campus resources and support services available to them. Students will be introduced to career and life planning, study strategies, coping skills (i.e., stress management, interpersonal relationships), team projects, activities aimed at self discovery, and issues that impact college campuses and our global society that are important to the development of the modern college student. Lecture: 1 credit (15 contact hours).

**Attributes:** Other, Enrichment 1st Year Experience

**Components:** LEC: Lecture

**SDC 102 (1 credit hours)****Stress Management**

Students will review various physiological and psychological approaches to stress with an emphasis on creating an awareness of how to change and manage their responses to stressful situations. Options and appropriate exercises for coping with anxiety will be presented. Topics will include time management, cognitive restructuring, health, wellness and relaxation training. Lecture: 1 credit (15 contact hours).

**Attributes:** Other, Enrichment Course Other

**Components:** LEC: Lecture

**SDC 104 (1 credit hours)****Transfer Planning**

Increases knowledge, personal awareness, and self-efficacy related to the transfer process after completion of a two year degree. Provides information, decision-making tools, transition skills, and support to navigate the transfer process, and concluding with an individualized transfer plan to ensure successful matriculation to a four-year institution. Lecture: 1 credit (15 contact hours).

**Attributes:** Non-remedial, Other, Technical

**Components:** LEC: Lecture

**SDC 105 (1 credit hours)****Career Planning Seminar**

Students will become more knowledgeable about themselves and career options. Self-assessments and vocational inventories measuring interests, work values, skills and abilities will be administered to students. Students will learn how to research careers, career alternatives and employment trends. Topics will include goal setting, decision-making and employability skills. Students will complete a personal career plan at the conclusion of the course. Lecture: 1 credit (15 contact hours).

**Attributes:** Enrichment Career Counseling, Technical

**Components:** LEC: Lecture

**SDC 151 (3 credit hours)****Facilitating Career Development I**

Provides knowledge and skills instruction in helping skills, training group facilitator skills, career development theories and techniques, formal and informal career assessments, ethics, cultural competence, career information, and technological resources for the career services provider. Covers the first half of the Facilitating Career Development curriculum of the National Career Development Association. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** College-level reading and writing skills as determined by the KCTCS Assessment and Placement Policy, or completion of required transitional courses in Reading and English.

**Attributes:** Technical

**Components:** LEC: Lecture

**SDC 152 (3 credit hours)****Facilitating Career Development II**

Provides knowledge and skills instruction in employability skills and job search coaching for the career services provider, as well as: program planning and evaluation, consultation and supervision, promotion and public relations, history and development of the workforce system and career development profession, business services, and providing services to populations with special needs (people with disabilities, justice-involved, school-aged youth). Discusses next steps in professional development: preparation for certification, education pathways, professional associations, and continuing education. Covers the second half of the Facilitating Career Development curriculum of the National Career Development Association. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SDC 151 with a C or higher grade.

**Co-requisite:** SDC 153 or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**SDC 153 (1 credit hours)****Career Facilitator Practicum**

Provides supervised workplace learning experiences in career facilitation, in a college/university, school, or community agency setting, applying knowledge and skills gained from the Facilitating Career Development curriculum. Practicum: 1 credit hour (60-90 contact hours).

**Pre-requisite:** SDC 151 with a C or higher grade.

**Co-requisite:** SDC 152.

**Attributes:** Technical

**Components:** PCM: Practicum

# Surgical Technology (SUR)

**SUR 100 (12 credit hours)****Surgical Technology Fundamentals Theory**

Provides an overview of the history of surgery and the role of the surgical technologists, including professional responsibilities, developing a professional resume, legal and ethical considerations, interpersonal relationships and communication skills. Incorporates safety, hazards preparation, aseptic technique and duties of the scrubbed and the circulating surgical technologist during a surgical procedure. Provides information for the performance and completion of surgical procedures including general surgery, ob/gyn with attendant specialty equipment, abdominal incisions, wound closures, and standard precaution skills. Pre-requisite OR Co-requisite: SUR 130, CPR (for Healthcare Providers) must be completed prior to the first surgical technology skills practicum course and must remain current throughout the Surgical Technology Program. Lecture: 12 credits (180 contact hours).

**Pre-requisite:** Minimum "C" grade in [BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or MIT 103) and (BIO 225 or BIO 226 or BIO 227 or BIO 118).

**Co-requisite:** SUR 102 and SUR 125. SUR 130, CPR (for Healthcare Providers) must be completed prior to the first surgical technology skills practicum course and must remain current throughout the Surgical Technology Program.

**Attributes:** Technical

**Components:** LEC: Lecture

**SUR 102 (3 credit hours)****Surgical Technology Fundamentals Lab**

Provides opportunity for demonstration of skills required to prepare the patient, operating room, basic equipment, and supplies; and to function as a member of an operating room team. Incorporates OSHA safety standards, aseptic technique, and duties of both scrubbed and circulating technologist during a surgical procedure. CPR (for Healthcare Providers) must be completed prior to the first surgical technology skill practicum course and must remain current throughout the Surgical Technology Program. Laboratory: 3 credits (135 contact hours).

**Pre-requisite:** Minimum "C" grade in [BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or MIT 103) and (BIO 118 or BIO 225 or BIO 226 or BIO 227).

**Pre- or co-requisite:** SUR 100 of (SUR 109 and SUR 110).

**Attributes:** Technical

**Components:** LAB: Laboratory

**SUR 109 (3 credit hours)****Introduction to Surgical Technology**

Provides a brief overview of the history of surgery and an in-depth introduction of the role and responsibilities of the surgical technologists, an integral health care professional in the delivery of perioperative patient care and surgical services; including professional responsibilities, developing a professional resume, legal and ethical considerations, interpersonal relationships and communication skills. Introduces the basics of biomedical science and identifying information resources. Introduces all-hazards preparation for the surgical technologist, basic principles of aseptic technique, sterilization, surgical scrub, gown and gloving and basic instruments used in surgery along with correlating the impact of microbiology in relationship to the practice of sterile technique and infection control in the operative setting. Lecture: 3.0 credits (45 contact hours).

**Components:** LEC: Lecture



**SUR 110 (9 credit hours)****Surgical Technology Fundamentals**

Incorporates safety, aseptic technique and duties of the scrubbed and the circulating surgical technologist during a surgical procedure; Provides in depth information for the successful preparation, performance, and completion of basic surgical procedures; Addresses specialty areas of general surgery, ob/gyn with attendant specialty equipment; Introduces the theory of abdominal incisions, wound closures, and standard precaution skills in each clinical assignment; Includes biomedical sciences of electricity, physics, and robotics as they pertain to surgical technology. Pre-requisite OR Co-requisite CPR (for Healthcare Providers) must be completed prior to the first surgical technology skills practicum course and must current remain throughout the Surgical Technology Program. Lecture: 9 credits (135 contact hours).

**Pre-requisite:** Admission to Surgical Technology program or consent of Program Coordinator and SUR 109 and AHS 115.

**Co-requisite:** SUR 102 and SUR 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**SUR 117 (3 credit hours)****Pathophysiology for Surgical Technologist**

Provides instruction in the human disease processes as related to origin, diagnosis, treatment and/or surgical intervention, including adaptation and injury processes, as well as the role of microorganisms in the human body. Examines major body systems and disease mechanisms, as well as care and disease prevention methods. OSHA criteria for bloodborne pathogens and infectious diseases are discussed. Minimum "C" grade in [BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or MIT 103). Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Admission into the Surgical Technology Program.

**Pre- or co-requisite:** SUR 100 or (SUR 109 and SUR 110).

**Attributes:** Technical

**Components:** LEC: Lecture

**SUR 125 (2-3 credit hours)****Surgical Technology Skills Practicum I**

Provides experience in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with an emphasis on OSHA standards. CPR (for Healthcare Providers) must be completed prior to the first surgical technology skills practicum course and must remain current throughout the Surgical Technology Program. Clinical: 2.0 - 3.0 credits (120 - 180 contact hours).

**Pre-requisite:** Minimum "C" grade in SUR 102.

**Co-requisite:** SUR 100 or (SUR 109 and 110).

**Attributes:** Technical

**Components:** CLN: Clinical

**SUR 201 (6-7 credit hours)****Surgical Technology Skills Practicum II**

Provides opportunity for application of techniques learned in SUR 202 in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with an emphasis on OSHA standards. Clinical: 6.0 - 7.0 credits (360-420 contact hours).

**Pre-requisite:** Minimum grade of "C" in [SUR 100 or (SUR 109 and 110)] and SUR 125 and SUR 130.

**Co-requisite:** SUR 202.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** CLN: Clinical

**SUR 202 (11 credit hours)****Surgical Technology Advanced Theory**

Focuses on the relevant anatomy, indications for surgery, patient preparation, special equipment and supplies, purpose, expected outcomes, and possible complications of specialty areas following OSHA standards. Introduces the fundamental principles of the clinical use of drugs. Emphasizes the role and responsibility of the surgical technologist related to drugs, a review of basic mathematic skills, a thorough knowledge of the systems of measurement, and conversion and application of skills to perform dosage calculations. Presents information related to medicines in common use in the surgical setting. Lecture: 11 credits (165 contact hours).

**Pre-requisite:** Minimum "C" grade in [SUR 200 or SUR 109 and SUR 110] and SUR 125.

**Co-requisite:** SUR 201.

**Attributes:** Technical

**Components:** LEC: Lecture

**SUR 275 (2 credit hours)****Surgical Technology Advanced Practicum**

Provides an advanced experience in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with limited supervision. Pre-requisite OR Practicum: 2.0 credits (120 contact hours).

**Co-requisite:** Minimum grade of "C" in SUR 202 and SUR 201.

**Attributes:** Technical

**Components:** PCM: Practicum

**SUR 280 (5 credit hours)****Surgical Anatomy**

Provides accurate information about the structure and function of the human body. Intended for students who are pursuing a career as a Surgical First Assistant. Lecture: 5.0 credits (75 contact hours).

**Pre-requisite:** Surgical Technologist or CNOR.

**Co-requisite:** SUR 284 & SUR 295.

**Attributes:** Technical

**Components:** LEC: Lecture

**SUR 282 (3 credit hours)****Perioperative Bioscience**

Promotes an understanding of microbial physiology which precedes the understanding of disease transmission and/or prevention; Emphasizes standard precautions and infection control; Contains pharmacology section designed to promote understanding of effects of pre, post and operative drugs; Includes anesthesia section designed to promote understanding of general principles/techniques and drugs used by anesthesia and effects on the patient; Introduces the student to the following: diagnostic testing such as radiology, laboratory, cardiographics, wound healing, nutrition perioperatively, fluid and electrolyte balance, and techniques in maintaining homeostasis. Student must provide current documentation of certification. Pre-requisite: SUR 280 & SUR 284& SUR 295. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Program admission and student must be a certified Surgical Technologist or an RN with operating room experience. SUR 280 & SUR 284& SUR 295.

**Co-requisite:** SUR 296.

**Attributes:** Technical

**Components:** LEC: Lecture

**SUR 284 (3 credit hours)****Principles of Surgical Assisting**

Introduces the student to the theory involved in surgical assisting; Incorporates anatomy, surgical techniques, aseptic techniques, draping, positioning, suturing, safety, and duties of the surgical team. Student must be a certified Surgical Technologist or an RN with operating room experience OR consent. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (45 contact hours).

**Pre-requisite:** Program admission.

**Co-requisite:** SUR 280 & SUR 295.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**SUR 295 (1 credit hours)****Surgical First Assistant Clinical**

Includes the performance of entry level duties of a surgical assistant in a clinical setting under the supervision of a qualified preceptor. Follows the Commission on Accreditation of Allied Health programs Surgical Assistant Core Curriculum related to the nature of the cases and the duties involved. Clinical: 1 credit hour (45 contact hours).

**Pre-requisite:** Program admission.

**Co-requisite:** SUR 280 and SUR 284.

**Attributes:** Technical

**Components:** CLN: Clinical

**SUR 296 (3 credit hours)****Surgical First Assistant Practicum**

Involves advanced training in the preoperative, operative, and postoperative phases of surgery. Exposes student to wide variety of surgical procedures. Emphasizes surgical anatomy, along with critical thinking skills, in every surgical procedure under the supervision of a surgeon who is responsible for overseeing the clinical educational experience of the student. Practicum: 3.0 credits (270 contact hours).

**Pre-requisite:** SUR 280, SUR 284 and SUR 295.

**Co-requisite:** SUR 282.

**Attributes:** Technical

**Components:** PCM: Practicum

**SUR 297 (1 credit hours)****Surgical First Assistant Practicum II**

Involves advanced training in the preoperative, operative, and postoperative phases of surgery. Exposes student to wide variety of surgical procedures. Emphasis on advanced anatomical knowledge that is applied towards the surgical diagnosis, along with critical thinking skills, in every surgical procedure under the supervision of a surgeon who is responsible for overseeing the clinical educational experience of the student. Practicum: 1 credit (90 contact hours)

**Pre-requisite:** SUR 280, SUR 284, SUR 295, SUR 282, SUR 296.

**Attributes:** Technical

**Components:** PCM: Practicum

**SUR 2011 (2 credit hours)****Surgical Skills I**

Provides opportunity for application of techniques in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with an emphasis on OSHA standards. Includes otorhinolaryngologic, plastic and reconstructive, and oral and maxillofacial procedures. Practicum: 2.0 credits (120 contact hours).

**Attributes:** Due to Inactivity

**Components:** PCM: Practicum

**SUR 2012 (4-5 credit hours)****Surgical Skills II**

Provides opportunity for application of techniques in a healthcare setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with an emphasis on OSHA standards. Includes genitourinary, orthopedic, neurosurgery, cardiovascular, peripheral vascular, and ophthalmic surgical procedures. Practicum: 4.0-5.0 credits (240-300 contact hours)

**Pre-requisite:** SUR 2011.

**Co-requisite:** SUR 200.

**Attributes:** Due to Inactivity

**Components:** PCM: Practicum

## Surveying (SMT)

**SMT 110 (3 credit hours)****Principles of Surveying**

Provides a study of field and office procedures for measuring distances, elevations, and horizontal and vertical angles. Covers Polaris and solar observations, state plane coordinates, control surveys, and public land surveys. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 130 (3 credit hours)****Land Surveying Graphics**

Covers graphical communication in surveying and mapping, fundamentals of projection, map projection theory, 3-D viewing, spatial relationships and viewpoints, plats, profiles, cross-sections, sketches for field notes and presentations in technical reports, map accuracy standards, plotting data from field notes and data collection, contour theory, and computations related to survey drafting. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 160 (3 credit hours)****Construction Surveying**

Provides a study of field and office procedures for the layout of construction sites. Includes theory of construction surveys for route locations, plant site, earthwork calculations, circular curves, lines, and grades. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SMT 110, or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 210 (3 credit hours)****Advanced Surveying Measurement**

Examines the nature of measurements, statistical analysis of random errors in measurements, propagation of errors, survey standards and design specifications, development of coordinate geometry and trigonometric solutions of plane surveying problems, analysis of errors and mistakes in indirect measurement. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SMT 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 220 (3 credit hours)****Surveying Lab**

Investigates field procedures for measuring distances, elevations, horizontal and vertical angles, state plane coordinates and control surveys as they pertain to boundary location, route location, construction and mine surveys. Laboratory: 3 credits (90 contact hours).

**Co-requisite:** SMT 160.

**Attributes:** Technical

**Components:** LAB: Laboratory

**SMT 230 (3 credit hours)****Land Boundary Location**

Explores the role of the surveyor in retracing land boundaries, methods of boundary establishment, classification and analysis of boundary evidence, preparing deed descriptions and survey plats, preservation of survey evidence, surveyor as expert witness, liability, and professionalism in surveying. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SMT 110.

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 250 (3 credit hours)****Mine Surveying**

Introduces the theory and practice of mine surveying and use of survey instruments, for the location of drill holes, bench surveys, layout of blasting patterns, haul road layout, transfer of control from surface to underground, alignment of underground development, recording of survey information, control systems, location and selection of stations, bore hole surveys, and subsidence surveys. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SMT 130 or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 270 (3 credit hours)****Professional Ethics & Conduct for Land Surveyors**

Explores the professional and ethical conduct of the Land Surveyor in areas of building a business, managing employees, communications, project management, and self-management. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SMT 230, or Instructor Consent.

**Attributes:** Technical

**Components:** LEC: Lecture

**SMT 290 (3 credit hours)****Boundary Law**

This course is the survey of property law, explaining the creation, description, and maintenance of property boundaries, easements and right-of-ways. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## Sustainability (SUS)

**SUS 101 (3 credit hours)****Introduction to Sustainability**

Introduces the concept of sustainability and its varied interpretations; the core concepts in the study of sustainability. Provides an overview and perspective of issues in sustainability from multiple disciplines and viewpoints. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Current KCTCS placement scores for College level reading and writing.

**Attributes:** SB - Social Behavior Science, Other

**Components:** LEC: Lecture

**SUS 102 (3 credit hours)****Sustainable Built Environment**

Introduces the ideas of sustainability in the built environment, our history of construction and expansion, and buildings and how they interact with the natural environment. Explores issues from the perspective of sustainable planning, design, and construction issues across disciplines. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Current KCTCS placement scores for College level reading and writing.

**Attributes:** SB - Social Behavior Science, Other

**Components:** LEC: Lecture

**SUS 201 (3 credit hours)****Sustainable Societies**

Examines sustainability concepts, values, and institutional contexts as they are manifested in societal frameworks in the U.S., and globally. Includes topics such as urban agriculture, individual or community based environmental conservation efforts, corporate sustainability programs, as well as cultural and societal implications of resource allocations as they pertain to equity and social justice. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Current KCTCS placement scores for College level reading and writing.

**Attributes:** SB - Social Behavior Science, Other

**Components:** LEC: Lecture

**SUS 202 (3 credit hours)****Sustainable Urban Systems**

Investigates the physical and social urban infrastructure networks as they relate to sustainability. Examines the institutions, as well as the formal and informal rules, that use, manage, or govern urban physical and social infrastructures. Considers the role of private groups, non-profits, and other organizations and the networks and systems of support that exists for environmental and sustainable-oriented activity. To Sustainability & SUS 201 Sustainable Societies. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** SUS 101 Intro.

**Attributes:** SB - Social Behavior Science, Other

**Components:** LEC: Lecture

## Teaching English to Speakers of Other Languages (TES)

**TES 100 (3 credit hours)****Introduction to Teaching English to Speakers of Other Languages (TESOL)**

Introduces key concepts in teaching English as a second or foreign language. Offers a broad introduction to the knowledge and skills needed to become a professional teacher of ESL or EFL. 3 credits (45 contact hours).

**Pre-requisite:** ENG 102.

**Attributes:** Technical

**Components:** LEC: Lecture

**TES 101 (3 credit hours)****Second Language Literacy & Acquisition**

Covers theory, research, and pedagogy associated with the development of literacy in two languages, either simultaneously or successively.

Focuses on how individuals and groups become literate in English as an additional or second language. Explores political, cultural, social, and contextual, as well as cognitive, textual, and educational issues that arise in acquiring and using a second literacy. Introduces current research in second language acquisition, especially of English. Focuses on prominent research trends in the study of the language learner, the process of acquisition, and the interaction of learner, language, and context. 3 credits (45 contact hours).

**Pre-requisite:** TES 100, ANT 160, COM 254.

**Components:** LEC: Lecture

**TES 102 (3 credit hours)****TESOL Methods & Practice**

Surveys current theory and practice in teaching English to non-native speakers with foci on classroom teaching and design. Emphasizes awareness of teaching behaviors and their consequences in English classrooms for native and non-native speakers of English. Explores traditional and innovative approaches for integrating instructional technology and multimedia, designing of classroom materials for specific purposes, and preparing procedures for teaching all language skills at various educational levels. Surveys instruments to observe classroom teaching behavior and provides practice in the use of observation instruments. 3 credits (45 contact hours).

**Pre-requisite:** ANT 160, COM 254, TES 100.

**Attributes:** Other

**Components:** LEC: Lecture

**TES 103 (3 credit hours)****Second Language Teaching w/Lab**

Considers trends, issues, research, and exploration in second language teaching, as well as language learner assessment and testing. Provides a balance between observation and practical teaching experience. Provides opportunities for students to plan, teach, and reflect on lessons through a practicum experience. Emphasizes application of theory and pedagogical knowledge gained from course work. Develops skills to reflect on teaching and its consequences for learners. Integrated Lecture: 2 credits (30 contact hours). Integrated Lab: 1 credit (30 contact hours).

**Pre-requisite:** ANT 160, COM 254, TES 100.

**Attributes:** Other

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

## Technical Communication (TEC)

**TEC 200 (3 credit hours)****Technical Communications**

Focuses on written and oral communications in a technical environment, including a review of grammar, usage, mechanics, and punctuation. Emphasizes preparing business communications such as letters and application materials, creating technical reports and sets of instructions, creating proposals or presentation materials, and developing appropriate technical communication styles for various audiences. Covers professional use of email, social media, websites, and other electronic resources. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** Placement in college level writing or Consent of Instructor.

**Attributes:** Other

**Components:** LEC: Lecture

## Telehealth Technician Assistant (TLH)

**TLH 200 (4.5 credit hours)****Telehealth Patient Care**

The course will prepare students for a scope of practice in telehealth patient care using electronic communication from one site to another to provide clinical health care at a distance. The course is designed to overcome barriers of time and distance to deliver healthcare services. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credits (30 contact hours). Clinical: 1.5 hours (67.5 contact hours).

**Attributes:** Technical

**Components:** CLN: Clinical, LAB: Laboratory, LEC: Lecture

## Theatre (TA)

**TA 195 (1-3 credit hours)****Special Projects in Theatre Arts (Project Title)**

Projects in Theatre Arts that are not otherwise covered by or extend beyond the scope of TA 190, TA 191 or other theatre arts course offerings. Projects may include, but are not limited to, practical application of techniques in special circumstances; special theatre tours; research projects that will be used as the basis of a practical application project; or theatrical workshop projects designed to cover a special area of practice. Projects will be selected by the instructor and may be repeated with different titles for up to six credit hours. Lecture: 1-3 credits (15-45 contact hours); Laboratory: 1-3 credits (60-180 contact hours).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**TA 264 (3 credit hours)****Makeup for the Theatre**

Theory and practice in the principles, materials and application of makeup. Lecture, two hours; laboratory, two hours.

**Pre-requisite:** TA 150 or consent of instructor.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

## Theatre (THA)

**THA 101 (3 credit hours)****Introduction to Theatre: Principles and Practice**

Cultivates students judgment, perception, and creative response to theatre, emphasizing what and how theatre communicates through examining both processes and products of theatre. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**THA 126 (3 credit hours)****Acting I: Fundamentals of Acting**

Explores a broad spectrum of skills in the creative process of acting ensemble. Includes improvisation, movement disciplines (including theatre games, modern dance, and characterization), emotional and sensory awareness, and the process of integrating these into a clearly defined stage technique. Lecture: 3.0 credit hours; Laboratory: 2.0 credit hours.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture



**THA 127 (3 credit hours)****Acting Techniques**

Uses movement exercises, sensory work, theatre games and basic stage combat exercises to heighten physical awareness, release personal blocks, and discover the experience of being truthful with fellow actors. Continues with students moving on to individual work to establish physical techniques they will use when working on a production. Provides an exploration of physical and emotional awareness and development of a more creative use of their imaginations. Lecture: 1.0 credit hour (15 contact hours) Lab: 2.0 credit hours (90 contact hours).

**Pre-requisite:** THA 126.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**THA 141 (3 credit hours)****Costuming & Make-up for the Stage**

Develops an understanding of the basic elements of costume and make-up design and application. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**THA 150 (3 credit hours)****Fundamentals of Production**

Includes a comprehensive study of the basic organizational structure, processes and techniques involved in theatre design, technology and management. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**THA 190 (1 credit hours)****Production Practicum**

Provides study and practice of production techniques through rehearsal and performance. May be repeated to a maximum of 2 credits. Practicum: 1.0 credit (45 contact hours).

**Attributes:** Technical

**Components:** PCM: Practicum

**THA 191 (1 credit hours)****Performance Practicum**

Provides study and practice of acting and directing through rehearsal and performance. May be repeated to a maximum of two credits. Practicum: 1.0 credit hour (45 contact hours).

**Attributes:** Other

**Components:** PCM: Practicum

**THA 192 (1 credit hours)****Production Practicum**

Provides study and practice of production techniques through rehearsal and performance. Practicum: 1.0 credit (45 contact hours).

**Attributes:** Other

**Components:** PCM: Practicum

**THA 193 (1 credit hours)****Performance Practicum**

Provides study and practice of acting and directing through rehearsal and performance. Practicum: 1.0 credit (45 contact hours).

**Attributes:** Other

**Components:** PCM: Practicum

**THA 196 (3 credit hours)****Summer Theatre Workshop**

Includes studies in the theory and application of acting, directing and production principles supplemented by written assignments to be determined by the college Theatre program. Admission by audition or selection by director/college staff. Open to apprentice students in a Summer Theatre program. Lab: 1.0 - 3.0 credit hours (45 - 125 contact hours).

**Pre-requisite:** Acceptance by audition or selection by director/college staff.

**Attributes:** Technical

**Components:** LAB: Laboratory

**THA 200 (3 credit hours)****Introduction to Dramatic Literature**

Provides a study of representative dramatic literature from Greek Antiquity to the present. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

**THA 203 (3 credit hours)****Acting for the Camera**

Includes a fundamental approach to auditioning and acting for the camera. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** THA 126.

**Attributes:** Technical

**Components:** LEC: Lecture

**THA 226 (3 credit hours)****Acting II: Scene Study (Realism)**

Concentrates on several components of the acting process: preliminary study in modern acting theories, Stanislavski to the present; textual analysis, character study and scene work; studio exercises aimed at refining rehearsal skills for the actor. Lecture: 2.0 credit hours (30 contact hours). Laboratory: 1.0 credit hour (15 contact hours).

**Pre-requisite:** THA 126 or Consent of Instructor.

**Attributes:** Other

**Components:** LAB: Laboratory, LEC: Lecture

**THA 227 (3 credit hours)****Acting III: Scene Study (Styles)**

Introduces the actor to a performance style other than realism while continuing to develop the actor's skills in analysis and rehearsal. Lecture: 2.0 credit hours (30 contact hours). Lab: 1.0 contact hour (15 contact hours).

**Pre-requisite:** THA 226 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**THA 230 (3 credit hours)****Unarmed Stage Combat**

Provides a study of unarmed combat for the stage from both the classic and contemporary approaches to staging violence. Techniques for punches, slaps, kicks, falls, and rolls will be covered. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Other

**Components:** LEC: Lecture

**THA 250 (3 credit hours)****Stage Electrics**

Provides a comprehensive study of sound production and stage lighting in principle and practice. It concentrates on the fundamentals of circuits, instrumentation, and operation of stage lights and sound. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**THA 260 (3 credit hours)****Stagecraft**

Provides a study of theory, principles and techniques of scenic design and construction. Includes assignments in practical applications. Lecture: 2.0 credit hours (30 contact hours). Lab: 1.0 credit hour (75 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**THA 283 (3 credit hours)****American Theatre**

Surveys American theatre history, giving particular emphasis to the late nineteenth and twentieth centuries, examining both theatre practice and dramaturgy and placing them within an historical, social, and cultural context. Lecture: 3 credits (45 contact hours).

**Attributes:** AH - Arts and Humanities

**Components:** LEC: Lecture

## Truck Driving (TNT)

**TNT 110 (3 credit hours)****Basic Operations**

The student is orientated to the truck driving industry to include trip planning, personal and financial management, and basic vehicle systems. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**TNT 120 (3 credit hours)****Safe Operating Practices**

The student develops an understanding of the legal and safety regulations associated with the trucking industry. Lecture: 3 credits (45 contact hours).

**Components:** LEC: Lecture

**TNT 210 (1 credit hours)****Advanced Operating Practices**

Students will be exposed to the vehicle inspection, basic controls, coupling/uncoupling, and CDC skills manuals. Lecture: 1 credit (45 contact hours).

**Pre-requisite:** TNT 110, TNT 120.

**Components:** LAB: Laboratory

**TNT 220 (3 credit hours)****Vehicle Systems and Reporting Malfunction**

The student drivers in assigned route developed by the school to give students exposure to specific operations. The student will be required to conduct all phases of inspections, logging, and other related activities to the Department of Transportation regulations. This course includes the Professional Truck Driver/Defensive Driving Course. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** TNT 110, TNT 120, TNT 210.

**Components:** LEC: Lecture

**TNT 250 (4 credit hours)****Internship**

The student is placed with a motor transport carrier/driver for a 10,000 mile behind-the-wheel, over-the-road experience. Independent Study: 4 credits (300 contact hours).

**Pre-requisite:** TNT 110, TNT 120, TNT 210, TNT 220.

**Components:** IND: Independent Study

## Truck Driving (TRU)

**TRU 100 (6 credit hours)****Truck Driving**

The purpose of the program is to prepare individuals as professional drivers for the truck driving industry. The course content is designed to familiarize students with the fundamental and operational procedures to become professional truck drivers. This is the entire curriculum. It is not divided into individual courses. Lecture/Lab: 6 credits (150 contact hours).

**Pre-requisite:** CDL Permit.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Unmanned Systems Technology (UST)

**UST 100 (3 credit hours)****Intro to Unmanned Systems Technology**

Examine the foundations of unmanned systems technology (UST), including history, elemental systems including payloads, data links, ground support equipment, classes of unmanned systems, categories, basic components, applications, mission planning and control, and launch/recovery systems. Lecture: 3 credit hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 102 (1 credit hours)****UST Career Exploration**

Explore different careers where the small unmanned systems are utilized. Identify specific fields of interest in which small unmanned systems are used and explain how the technology is integrated into the field. Lecture: 1 credit hour (15 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 105 (3 credit hours)****Unmanned Systems Safety and Regulations**

Explains the current legal considerations of unmanned systems technology operations, provides an outlook on future considerations, and informs students on existing and trending unmanned systems technology related safety standards and regulations. Lecture: 3 credit hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 107 (3 credit hours)****Commercial Drone Operations**

Review commercial pilot license certification process and testing procedures required by FAA 107 regulations including air traffic control towers, safety protocols, risk management, weather air space, maintenance and operations of aerial vehicles, and mission plans. Prepares students for FAA-107 certification. Lecture: 3 credit hours (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 170 (3 credit hours)****Drone Media Applications**

Utilizes small unmanned systems to record events related to photography and real estate. Lecture: 3 credit hours (45 contact hours).

**Pre-requisite:** UST 107 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 200 (4 credit hours)****Drone Fabrication and Repair**

Introduces drone fabrication, including safety principals, component selection, heating applications, and basic measurements using the metric system. Emphasizes designing, construction, testing, troubleshooting, and repairing of drones. Lecture: 3 credits (45 contact hours). Lab: 1 credit (30 contacts hours).

**Pre-requisite:** College Ready in all areas.

**Pre- or co-requisite:** UST 100.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**UST 210 (2 credit hours)****Visual Observer Operations**

Prepares students to be a Visual Observer (VO) in day time unmanned aircraft systems (UAS) missions by monitoring drone flights, assessing risk and mitigation, and communicating flight operations to support the remote pilot in command. Demonstrate an understanding of VO types, visual techniques, and possible hazards that ensure safe day time drone operations. Pre-requisite or Co-Requisite: UST 100 AND UST 105 or Consent of Instructor. Lecture: 2 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 211 (2 credit hours)****Night Time VO Operations**

Prepares students to be a Visual Observer (VO) in night time unmanned aircraft systems (UAS) missions by monitoring drone flights, assessing risk and mitigation, and communicating flight operations to support the remote pilot in command. Demonstrate an understanding of visual illusions, visual sensitivity, and physiological conditions that ensure safe night time drone operations. Pre-requisite or Co-Requisite: UST 210 or Consent of Instructor. Lecture: 2 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 220 (2 credit hours)****First Responder Applications**

Examine fundamental principles of unmanned systems technologies, capabilities, regulations, legal responsibilities, cost and benefit consideration for potential use in law enforcement, fire, rescue, emergency medical and disaster response applications. Lecture: 2 credit hours (30 contact hours).

**Pre-requisite:** UST 107 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 221 (1 credit hours)****Crew Resource Management**

Provides students with an introduction to the principles and concepts of crew resource management (CRM) through interactive discussion and scenario based analysis as it relates to unmanned systems operations. Discusses CRM markers, principles and concepts of CRM, team building, information transfer, problem solving, risk management and decision making, communications process, conflict resolution and maintaining situational awareness when dealing with UAS automated systems. Lecture: 1 credit hour (15 contact hours).

**Pre-requisite:** UST 107 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 290 (1-3 credit hours)****UST Flight Mastery**

Develop skills in the flight of small unmanned systems, covering pre-flight procedures, take-off, landing, hovering techniques, operation/navigation, crew resource management, and post-flight procedures. Laboratory: 1-3 credit hours (30-90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**UST 291 (1-3 credit hours)****Selective Topics in UST**

Explores concepts and/or skills from special areas of interest in unmanned systems technology. May be repeated with different topics to a maximum of 6 credit hours. Lecture: 1-3 credits (15-45 contact hours).

**Pre-requisite:** UST 100 or Consent of Instructor.

**Pre- or co-requisite:** UST 107 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**UST 295 (1-6 credit hours)****UST Learning Experience**

Provides on-the-job experience in small unmanned systems, requiring 40 clock/hours per credit hour of appropriate experience approved by the instructor; requires a learning contract, signed by the students, instructor, and supervisor. Laboratory: 1-6 credit hours (30-180 contact hours).

**Pre-requisite:** UST 107 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**UST 299 (1 credit hours)****UST Capstone Studies**

Creates employment related documents, demonstrates proper interviewing skills, and explores employment and careers in the unmanned systems technology area. Lecture: 1 credit hour (15 contact hours).

**Pre-requisite:** UST 107 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

## UTC Physics (PHS)

### PHS 175 (6 credit hours)

#### Applied Physics

This course is a basic study of the principles of physics and mechanics, including motion, force, vectors, work, energy, machines, properties of matter, behavior of fluids, temperature and heat, properties of gases, wave motion, electricity, light, and nuclear physics. Problem solving techniques are stressed. Lecture: 6 credits (150 contact hours).

**Co-requisite:** MAT 126.

**Attributes:** Other

**Components:** LEC: Lecture

## Veterinary Technology (VET)

### VET 108 (4 credit hours)

#### Veterinary Technology

Introduces students to veterinary medicine and technology through the lecture component; covering hospital operation, professional standards, and ethics. Introduces the study of breeds and strains of domestic animals, and the basic concepts of animal behavior. Emphasizes preventative health programs for common domestic species along with small animal nutrition and pet food marketing. Teaches and reinforces restraint techniques, medical history, physical exam, and practice management software in the laboratory component. Integrated Lecture/Lab: 4 credits (90 contact hours).

**Co-requisite:** AGR 240, BIO 112, BIO 113.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

### VET 112 (4 credit hours)

#### Veterinary Microbiology

Examines the characteristics of microbes and their relationships to animal health and diseases. Introduces fundamental microbiological principles and laboratory techniques. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** BIO 112, BIO 113, and VET 108.

**Attributes:** Technical

**Components:** LEC: Lecture

### VET 116 (4 credit hours)

#### Animal Anatomy and Physiology

Provides a functional integration of basic science and clinical information as it relates to animals in an integrated lecture and laboratory approach, employing the organ system approach, using domestic and laboratory animals as models to discuss anatomy and physiology. Utilizes prosected animal specimens, fresh and preserved, as well as skeletons and models in the laboratory, to reinforce course concepts. Integrated Lecture/Laboratory: 4 credits (90 contact hours).

**Pre-requisite:** VET 108.

**Co-requisite:** VET 112.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

### VET 120 (2 credit hours)

#### Clinical Practicum I

Provides practical experience in veterinary clinics and/or related facilities; students complete an average of approximately 12 hours of clinical practicum per week. Clinical: 2.0 credits (96 contact hours).

**Pre-requisite:** VET 110, 112, and 114.

**Co-requisite:** VET 130.

**Attributes:** Technical

**Components:** CLN: Clinical

### VET 135 (5 credit hours)

#### Clinical Procedures I

Introduces essential nursing skills, surgical concepts, radiographic procedures, and neonatal care. Prepares the student to assist the veterinarian in performing surgery by introducing anesthesia, operation of the anesthesia machine, and surgical nursing procedures. Covers development, treatment, prevention, and control of infectious and non-infectious diseases. Lecture/Lab: 5.0 credits (135 contact hours).

**Pre-requisite:** VET 108, 112, and 116.

**Co-requisite:** VET 120.

**Attributes:** Technical

**Components:** LEC: Lecture

### VET 210 (3 credit hours)

#### Pharmacology

Introduces the major drug classifications, covers the use and control of drugs, measurements and conversion factors, and methods of drug action and interaction used in small and large animal practice. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** VET 120 and VET 130.

**Co-requisite:** VET 220 and VET 230.

**Attributes:** Technical

**Components:** LEC: Lecture

### VET 220 (5 credit hours)

#### Parasitology and Clinical Lab

Covers the study of internal and external parasites of companion, exotic, and farm animals. Life cycles, diagnostic protocol, control, and treatment of the most common parasites will be discussed. Familiarizes students with laboratory techniques performed in veterinary hospitals and clinics. Examination and testing of blood, feces, urine, and exudates are performed for diagnostic and prognostic purposes. Development of skills necessary to maintain a safe laboratory working environment, institute quality control programs, collect, process, store, and transport clinical biological specimens. Lecture/Lab: 5.0 credits (135 contact hours).

**Pre-requisite:** VET 120 and VET 130.

**Co-requisite:** VET 210 and VET 230.

**Attributes:** Technical

**Components:** LEC: Lecture

### VET 235 (4 credit hours)

#### Clinical Procedures II

Continues small and large animal medical nursing, aseptic technique, and surgical instrumentation. Builds upon VET 135 skills in surgical nursing, anesthesia monitoring, critical care, emergency medicine, and radiographic techniques. Integrated Lecture/Lab: 4 credits (120 contact hours).

**Pre-requisite:** VET 120 and VET 135.

**Co-requisite:** VET 210 and VET 220.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

### VET 245 (5 credit hours)

#### Clinical Procedures III

Emphasizes lab animal care, advanced radiographic techniques, ultrasound, and clinical pathology. Covers dental prophylaxis, recognition of dental abnormalities, and charting. Includes refinement of skills introduced in previous courses, and field trips to veterinary and research facilities when appropriate. Lecture/Lab: 5.0 credits (135 contact hours).

**Pre-requisite:** VET 210, VET 220, and VET 235.

**Co-requisite:** AGR 280 and VET 250.

**Attributes:** Technical

**Components:** LEC: Lecture



**VET 250 (5 credit hours)****Clinical Practicum II**

Provides practical experience in veterinary hospitals, clinics, and/or related facilities; students complete an average of 16 hours per week. Clinical: 5.0 credits (240 contact hours).

**Pre-requisite:** VET 210, VET 220, and VET 230.

**Co-requisite:** VET 240.

**Attributes:** Technical

**Components:** CLN: Clinical

## Visual Communications Art and Design (VCA)

**VCA 105 (3 credit hours)****Drawing Concepts**

Develop drawing skills and illustration concepts as they apply to graphic design. Emphasizes how to create form in space and to draw in proper perspective for reproduction purposes. Students must receive a final grade of "C" or better to advance in all Visual Communication courses. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 106 (3 credit hours)****Creative Typographical Design**

Explores the use of type as a major design element to solve visual communication problems. Includes computer drawing application, pencils, and markers to manipulate type forms creatively and produce interesting, attractive type-only designs. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** VCC 150 and VCA 173.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 108 (3 credit hours)****Digital Color Theory**

Explores the visual dynamics of color as it relates to graphic design, including the basic characteristics of color: hue, value, and saturation. Explores perception and psychology of color; color harmonies and schemes using color wheels; and color modes. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 120 (3 credit hours)****Digital Photography I**

Introduces the skills and techniques to capture and process digital photographs. Emphasizes basic digital camera operations, exposure, composition, and lighting techniques. Includes proper techniques to import and organize photographs. Includes discussions on appropriate resolutions and file formats. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 131 (3 credit hours)****Digital Photography II**

Explores advanced skills and techniques to capture digital photographs using various camera functions, exposure, lenses, and lighting. Explores proper presentation skills for professional photography displays. Explores Adobe Photoshop and Lightroom to edit photographs, Camera RAW shooting, and creating interesting compositions. Lecture/Lab: 3.0 credits (90 contact hours)

**Pre-requisite:** VCA 120 and VCC 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 132 (3 credit hours)****Illustration For Advertising**

Develops skills in visualization and illustration techniques as they apply to advertising and graphic design. Emphasizes visual interpretation of narrative textual information such as a story, poem, magazine article, editorials, advertising, and books. Uses a variety of media including traditional media and digital media to create professional illustrations. Lecture/Lab: 3.0 credits (60 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 151 (3 credit hours)****Digital Filmmaking I**

Provides training in non-studio video production and editing. Includes applied aesthetics and production of dramatic, informational or experimental work on video. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 152 (3 credit hours)****Digital Filmmaking II**

Provides training in computer based editing and pre-production planning. Includes applied aesthetics of video editing production of dramatic, informational or experimental work on video. Pre-requisite Or Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Co-requisite:** VCA 160 and VCC 166 with a grade of C or better.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 160 (3 credit hours)****Commercial Photography I**

Teaches the use of 35 mm Digital SLR cameras, digital printers, and digital photography technology in relation to black & white photography and color photography. Includes basic photographic methods and skills in digital image capture, digital image manipulation, digital image printing, and presentation of photographs. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 161 (3 credit hours)****Commercial Photography II**

Continues the study of the 35mm camera as it relates to commercial art primarily in a studio setting using digital photography. Includes problem solving through assigned projects. Lecture/Lab: 3.0 credits (60 contact hours).

**Pre-requisite:** VCA 160 with a grade of C or better or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 163 (3 credit hours)****Basic Photography**

Teaches the use of 35 mm Digital SLR cameras, digital printers, and digital photography technology in relation to black & white photography and color photography. Includes basic photographic methods and skills in digital image capture, digital image manipulation, digital image printing, and presentation of photographs. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 164 (3 credit hours)****Portrait Photography**

Continues the study of the 35mm Digital SLR camera as it relates to commercial art primarily in a studio setting. Introduces the student to basic studio lighting and techniques for portraiture. Includes problem solving through assigned projects. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre- or co-requisite:** VCA 163 or VCA 120 with a grade of "C" or better.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 170 (3 credit hours)****Advertising Design I**

Introduces the principles and practices of graphic design. Includes terminology and procedures commonly used in graphic design, along with the Macintosh computer system and software used in illustration and graphic design for the print media and for the Internet, and navigation through and searching for information on the Internet using a web browser. Lecture: 3 credits (45 contact hours).

**Attributes:** Computer Literacy, Technical

**Components:** LEC: Lecture

**VCA 171 (3 credit hours)****Advertising Design II**

Explores basic to intermediate skills in electronic publishing, design layout, type composition, and prepress for printing and publishing applications. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** VCA 170 with a grade of C or better or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 173 (3 credit hours)****Basic Advertising Design**

Introduces the principles and practices of graphic design. Includes terminology and procedures commonly used in graphic design, along with the Macintosh computer system and software used in illustration and graphic design for the print and digital media. Navigation of search engines will be utilized. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre- or co-requisite:** VCC 150 or VCC 125.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 174 (3 credit hours)****Publication Design**

Explores basic to intermediate skills in electronic publishing, design layout, type composition, and prepress for printing and publishing applications. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** VCC 125 or VCC 150 and VCA 173.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 251 (3 credit hours)****Digital Filmmaking III**

Provides training in single-person video production with an emphasis on Electronic News Gathering style of video. Covers news, interviews, TV commercials, and documentaries. Pre-requisite Or Lecture: 2 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** VCA 152 with a grade of C or better or Consent of Instructor.

**Co-requisite:** VCA 160 with a grade of C or better or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 252 (3 credit hours)****Digital Filmmaking IV**

Provides training in multiple-person video production with an emphasis on Film-Style video production, story telling, TV commercials, and documentaries. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Pre-requisite:** VCA 251 with a grade of C or better or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 260 (4 credit hours)****Commercial Photography III**

Continues Commercial Photography II. Applies principles and techniques with emphasis on digital color photographic illustrations captured in the studio and on location. Begins use of lens perspective controls on the camera. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** VCA 161 with a grade of C or better or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 261 (4 credit hours)****Commercial Photography IV**

Continues Commercial Photography III. Emphasizes color photography and color management. Guidance in portfolio development as well as exploration of business practices in photography. Lecture/Lab: 4.0 credits (90 contact hours).

**Pre-requisite:** VCA 260 with a grade of "C" or better or consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 263 (3 credit hours)****Product Photography**

Applies principles and techniques with emphasis on digital color photographic illustrations captured in the studio. Begins use of lens perspective controls on the 35mm digital view camera. Includes problem solving through assigned projects. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** VCA 163 and VCA 164 and VCC 166 with a grade of "C" or better.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 264 (3 credit hours)****Commercial Photography**

Emphasizes color photography, lighting, and color management of photographic projects inside the studio and on location. Guidance in portfolio development as well as exploration of business practices in photography. Integrated Lecture/Lab: 3 credits (60 contact hours).  
**Pre-requisite:** VCA 163 and VCA 164 and VCC 166 with a grade of "C" or better.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 270 (4 credit hours)****Advertising Design III**

Emphasizes computer design and layout based on extensive use of the industry standard page layout and drawing programs; and critical thinking for problem solving, preparation, and production of electronic artwork. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours/30:1 ratio).

**Pre-requisite:** VCA 171 with a grade of C or greater or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 271 (4 credit hours)****Advertising Design IV**

Extends VCA 270 to include creation of a professional portfolio. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours/30:1 ratio).

**Pre-requisite:** VCA 270 with a grade of C or greater or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 273 (3 credit hours)****Corporate Design**

Creates and develops a total corporate identity emphasizing relationships between adequate research and development of appropriate concepts for a company image. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** VCA 106 and VCA 173 and VCA 174 and VCC 166 with a grade of "C" or better.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 274 (3 credit hours)****Advertising Design**

Explores and reviews the role of advertising in the marketing mix, and the function of major media forms. Uses a creative brief process to research, create, and design promotional concepts that meet assignment specifications. Explores legal strategies involved in advertising. Integrated Lecture/Lab: 3 credits (60 contact hours).

**Pre-requisite:** VCA 106 and VCA 173 and VCA 174 and VCC 166 with a grade of "C" or better.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCA 280 (3 credit hours)****Professional Portfolio Development**

Introduce students to proper assembly of a professional portfolio and presentation skills. Gives students the opportunity to refine work created in previous classes, identify strengths and weaknesses in their work, create a self-promotional package, attend mock interviews, and participate in portfolio review. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (75 contact hours/37.5:1 ratio).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCA 290 (3 credit hours)****Folio Seminar**

Prepares advanced design, photography, and web design students to complete a professional portfolio. Explores job interview techniques to help students understand their responsibilities in seeking positions. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** VCA 273 and VCA 274 or VCA 263 and VCA 264 or VCM 230 and CIT 140 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCA 298 (2-6 credit hours)****Practicum**

Incorporates and applies skills and techniques previously learned in the classroom and commercial art laboratory. Provides practical experience in a variety of commercial art establishments in the community. Lecture: 1 credits (15 contact hours) Lab/Practicum: 3 credits (150 contact hours/50:1 ratio)

**Pre-requisite:** VCA 290 and VCA 264 or VCA 274 or VCM 230 with a grade of "C" or greater or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Visual Communications Core (VCC)

**VCC 100 (3 credit hours)****Introduction to Visual Communication**

Introduces the concepts, vocabulary, and processes used in relation to visual communication. Includes various disciplines such as advertising, animation, audio, graphic design, multimedia, printing, production, and video. Identifies career paths and specific job skills within the visual communication field. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 106 (3 credit hours)****Typography**

Explores the use of type as a major element of design. Emphasizes the selection of appropriate type styles and fonts for a variety of media and content. Includes using type as a creative tool to produce interesting, type-only designs. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 110 (3 credit hours)****Design Concepts**

Explore the elements and principles of design to develop skills in producing creative design concepts for various media forms. Provides an opportunity to apply concepts in the process of design and project planning. Explores the graphic design disciplines, career competencies and expectations, and ethics to consider in graphic design. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 125 (3 credit hours)****Computer Graphics I**

Introduces students to computer technologies that are specific to the visual communication industry and fulfills the digital literacy requirements. Develops primary skills using Adobe InDesign, Adobe Illustrator, and Adobe Photoshop. Lecture/Lab: 3.0 credits (90 contact hours).

**Attributes:** Digital Literacy, Technical

**Components:** LEC: Lecture

**VCC 135 (3 credit hours)****Photo Editing for Photography**

Explores Adobe Lightroom and Adobe Photoshop techniques needed to edit photographs. Emphasizes proper importing, photo management, and workflow for editing. Includes discussions on file formats and importance of shooting in Camera RAW for editing purposes. Integrated Lecture/Lab: 3 credits (90 contact hours).

**Pre- or co-requisite:** VCA 120 and VCC 125.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 145 (3 credit hours)****Introduction to Sign & Graphic Production**

Introduces students to career opportunities that exist in the print, sign, and graphics industry. Covers a variety of topics, such as completing a job ticket, estimating, outsourcing and vendor partnerships, inventory control and ordering, and understanding workflow and production schedules. Introduces software, tools, and equipment used in the print, sign, and graphics industry. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 150 (3 credit hours)****Mac Basics**

Introduces Apple/Mac computer technology. Emphasizes industry specific needs, including hardware and software. Presents basic uses of the Internet, email, file management and computer ethics. Includes an introduction to computer illustration, electronic publication, and digital imaging software. This course fulfills the computer/digital literacy requirement. Lecture: 3.0 credits (45 contact hours).

**Pre-requisite:** RDG 20.

**Attributes:** Digital Literacy

**Components:** LEC: Lecture

**VCC 166 (3 credit hours)****Photoshop Basics**

Develops skills to correct, enhance, and manipulate digital photos, create image composites, and prepare images for the print and web using Adobe Photoshop. Introduces raster graphics and their use in the visual communication industry. Focuses on creating raster graphics from simple to increasingly complex images and designs. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** VCC 125 or VCC 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 200 (3 credit hours)****Illustrator Basics**

Develops skills to create illustrations and vector graphics for a variety of media using Adobe Illustrator. Focuses on creating vector graphics from simple to increasingly complex designs. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** VCC 125 or VCC 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 210 (3 credit hours)****Advanced Computer Illustration**

Provides students with advanced knowledge and skills in computer illustration. Creation of vector graphics and complex designs will be the focus of this course. Students must receive a letter grade of "C" or better. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 200.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 214 (3 credit hours)****Promotional Design & Production**

Introduces concepts, vocabulary, and processes used in relation to the design and production of graphics for various media and promotional materials. Provides students with knowledge and training of various production equipment along with software applications used to design graphics. Students must receive a final grade of "C" or better to advance in all Visual Communication courses. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 216 (3 credit hours)****Apparel Design & Production**

Introduces students to the technologies to produce t-shirts and other apparel. Provides students with knowledge and training of various equipment and procedures to properly prepare graphics for these printing technologies. Provides students with training in appropriate software applications used to design and prepare graphics for a variety of processes. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 125.

**Attributes:** Technical

**Components:** LEC: Lecture



**VCC 218 (3 credit hours)****Digital Printing & Production**

Provides foundational knowledge of the steps and procedures used to prepare, troubleshoot, and correct files for digital printing of collateral materials and booklets. Utilizes skills to create and utilize PDF files. Explores the importance of proper imposition and page-layout of various publications. Provides knowledge and training of various digital printing, finishing, and binding techniques used in the industry. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 125.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 220 (3 credit hours)****InDesign Basics**

Develops skills in page design and layout using Adobe InDesign software. Applies concepts and mechanics to create a single- and multi-page documents. Integrates various file types to create a finished product in Adobe InDesign. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 125 or VCC 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 230 (3 credit hours)****Advanced InDesign**

Provides advanced skills in page design and layout using Adobe InDesign software. Design and creation of a variety of complex and multi-page documents will be the focus of this course. Students must receive a letter grade of "C" or better. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** VCC 220.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 235 (3 credit hours)****Graphic Design I**

Explores the creative ideation process to develop a corporate identity and brand. Uses the creative brief process to research, design, and create corporate identities, logos, graphic standards, and other corporate designs. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** VCC 110 & VCC 215.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 245 (3 credit hours)****Graphic Design II**

Explores techniques in the creative ideation process to design professional corporate identities, product labels, promotional items, collateral materials, signage, and advertising campaigns. Emphasizes the use of graphics standards for corporate branding and advertising. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre- or co-requisite:** VCC 235.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 255 (3 credit hours)****Emerging Media Design**

Explores latest trends of new media technology related to the visual communication field. Topics will be specified by instructor according to latest trends in the region that could include social media, interactive media, advertising and marketing trends and a variety of media technologies. Integrated Lecture/Lab: 3 credits (90 contact hours).

**Pre-requisite:** VCC 125.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 260 (3 credit hours)****Computer Graphics II**

Provides advanced skills in computer graphics using Adobe InDesign, Photoshop, and Illustrator. Focuses on creation of a variety of complex designs, vector graphics, and multi-page documents will be the focus of this course. Lecture/Lab: 3.0 credits (90 contact hours)

**Pre- or co-requisite:** VCC 110 and VCC 125.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 265 (3 credit hours)****Graphic Design III**

Explores advanced techniques in the creative ideation process to design professional corporate identities and packaging. Introduces concepts, theories, terminology, design, and production of hard and soft wall three-dimensional packaging and product labels. Emphasizes creative problem solving, specifications, and legal requirements for the packaging industry. Integrated Lecture/Lab: 3 credits (90 contact hours).

**Pre- or co-requisite:** VCC 235.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 266 (3 credit hours)****Advanced Photoshop**

Develops advanced skills to digitally manipulate, enhance, and create composite photographs. Applies advanced principles, concepts, and techniques for graphic design and digital photography. Focuses on creation and manipulation of graphics for complex images and designs. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** VCC 166.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 270 (3 credit hours)****Acrobat Basics**

Provides students with the basic skills using Adobe Acrobat to produce and utilize PDF documents. Students must receive a letter grade of "C" or better. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCC 275 (3 credit hours)****Designing for Sign and Graphic Production**

Explores advanced techniques using Adobe and specialty software to create and prepare graphics for a variety of print, sign and graphic production. Focuses on gaining advanced skills in design concepts and preparing images that focuses on wide format printing. Integrated Lecture/Lab: 3 credits (90 contact hours).

**Pre-requisite:** VCC 110 and VCC 125.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 280 (3 credit hours)****Printing & Workflow for Sign and Graphic Production**

Introduces concepts, vocabulary, and processes used to design and produce vehicle wraps, wall wraps, and other large format graphics and signage. Focuses on the operation of wide format printers and other specialty printers. Utilizes raster images processor (RIPs) and presents basic workflow processes. Explains the properties and use of cast vs. calendared vinyl and other specialty vinyl, perforated vinyl, and a variety of substrates for signage. Integrated Lecture/Lab: 3 credits (135 contact hours).

**Pre-requisite:** VCC 110 and VCC 125.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEI: Integrated Lecture

**VCC 285 (3 credit hours)****Finishing & Installation of Sign and Graphic Production**

Introduces materials, equipment, and processes used for finishing techniques of vehicle wraps, wall wraps, and other large format graphics and signage. Provides knowledge in the operation of a variety of laminators, cutters, and finishing machines. Covers tools and supplies for preparation and installation of printed graphics, and techniques used to install graphics. Integrated Lecture/Lab: 3 credits (90 contact hours).

**Pre-requisite:** VCC 110 and VCC 125.

**Attributes:** Technical

**Components:** LAI: Integrated Laboratory, LEI: Integrated Lecture

**VCC 297 (3 credit hours)****Internship**

Provides supervised on-the-job work experience related to the students educational objectives. Students participating in Internships do not receive compensation for their work. Co-Op/Internship: 3 credits (180 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

**VCC 298 (3 credit hours)****Practicum**

Provides supervised on-the-job work experience related to the student's educational objectives. Student participating in the Practicum do not receive compensation. Practicum/Internship: 3 credits (180 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

# Visual Communications Multimedia (VCM)

**VCM 110 (3 credit hours)****Fundamentals of Animation**

Explores the fundamentals of 2-D animation through history, theory and practical application. Covers the basic concepts of animation, including: character design and development, character environment, and storyboarding. Students must receive a letter grade of "C" or better. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 115 (3 credit hours)****2-D Animation**

Introduces basic computer animation as it relates to advertising using industry standard software. Uses software to create 2-D animations for various multi-media functions. Lecture: 1.0 credit (15 contact hours); Laboratory: 2.0 credits (75 contact hours).

**Pre-requisite:** VCC 125 or VCC 150 and VCA 173.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 125 (3 credit hours)****Foundations of Video Production**

Introduces students to the basics of video production. Includes screenwriting, storyboards, planning a video production project, and optional effects/animation concepts. Familiarizes students with video, lighting, and sound equipment. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 140 (3 credit hours)****Digital Video**

Presents techniques for digital audio and video acquisition, equipment, and editing software. Emphasizes planning and creating storyboards for digital video projects from conception to final product. Develops an understanding of digital distribution. Lecture/Lab: 3.0 credits (90 contact hours).

**Pre-requisite:** VCC 125 or VCC 150 or Digital Literacy.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 150 (3 credit hours)****Audio Production I**

Introduce basic technical skills, recording equipment, and vocabulary for audio production. Develop skills in evaluation and listening to audio recordings. Utilize industry software for audio recording and editing. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 205 (3 credit hours)****Introduction to HTML**

Introduces students to the components of a website including cascading style sheets (CSS). Provides an understanding of editing and designing web structures using hypertext markup language (HTML). Lecture: 3.0 credits ( 45 contact hours).

**Pre-requisite:** VCC 125 or VCC 150.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 210 (3 credit hours)****3-D Animation**

Introduces the principles of animation. Uses commercial 3-D animation packages and storyboards to produce 3-D models and animations. Students must receive a letter grade of "C" or better. Pre-requisite Or Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (75 contact hours).

**Co-requisite:** VCM 115.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 215 (3 credit hours)****After Effects**

Introduces basic compositing techniques and motion graphics using Adobe After Effects. Emphasizes an understanding of pre-production for After Effects, green screen, lighting, key-framing, creating mattes, animating text, syncing to audio, and exporting projects. Lecture: 3.0 credits (45 contact hours).

**Pre- or co-requisite:** VCC 125 or VCC 150 or Digital Literacy.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 220 (3 credit hours)****Webpage Design**

Introduces students to principles and elements used in web design. Explores basic web design tools such as mark-up languages, cascading style sheets, and web authoring software. Identifies fundamentals including website layout, navigation, font usage, color schemes, and site structure to create visually pleasing websites. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (75 contact hours/37.5:1 ratio).

**Pre-requisite:** VCC 125 or VCC 150.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**VCM 225 (3 credit hours)****Advanced 3-D Animation**

Familiarizes students with advanced techniques of computer animation. Covers the production of 3-D animations using advanced lighting and rendering tools, inverse kinematics, and dynamic scene elements. Students must receive a letter grade of "C" or better. Pre-requisite Or Lecture/Lab: 3.0 credits (90 contact hours).

**Co-requisite:** VCM 210.

**Attributes:** Technical

**Components:** LEC: Lecture

**VCM 230 (3 credit hours)****Advanced Webpage Design**

Utilizes HTML and CSS and an advanced web-authoring software for design and development of a website. Utilizes fundamentals of web design, such as site layout and structure, navigation, font usage, and color schemes, to create a visual pleasing and responsive website. Introduces aesthetic, navigational, accessibility, and interactivity issues for web designers. Lab: 3 credits (90 contact hours).

**Pre-requisite:** VCM 220.

**Attributes:** Technical

**Components:** LAB: Laboratory

**VCM 240 (3 credit hours)****Advanced Digital Video**

Emphasizes the planning and creation of digital video projects through a non-linear editing environment. Deploys audio/video content through various delivery systems. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (75 contact hours/37.5:1 ratio).

**Pre-requisite:** VCM 140.

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

## Visual Communications Printing (VCP)

**VCP 255 (3 credit hours)****Special Topics Lab**

This course provides the student with additional hands-on experience. Topic will be specified by instructor. Laboratory: 3 credits (45 contact hours). Course may be scheduled a maximum of three times, with a total of 9 credit hours/135 clock hours.

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**VCP 285 (3 credit hours)****Electronic Prepress**

This is a capstone course designed to address the multiple applications of a Digital Production Artist in Visual Communication. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

## Welding (WLD)

**WLD 100 (2 credit hours)****Oxy-Fuel Systems**

A working knowledge of oxy-fuel identification, set-up, inspection, and maintenance; consumable identification, selection and care; principles of operation; and effects of variables for manual and mechanized oxy-fuel cutting, welding, brazing principles and practices, and metallurgy. Shop safety and equipment use are also covered. Lecture: 2 credits (30 contact hours)

**Co-requisite:** WLD 101 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 101 (2 credit hours)****Oxy-Fuel Systems Lab**

Manipulative skills necessary to weld and cut plate and pipe in all positions, as well as brazing, braze welding, and gouging. Lab: 2 credits (60 contact hours/30:1 ratio)

**Co-requisite:** WLD 100 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 110 (2 credit hours)****Cutting Processes**

A working knowledge of various cutting processes used by the welding industry. Will include, but is not limited to, safety, theory of operation, setup and operating techniques, troubleshooting and making minor equipment repairs, terms and definitions, identification, evaluation, repair and prevention of discontinuities of cut surfaces. Includes oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting process. Lecture: 2 credits (30 contact hours)

**Co-requisite:** WLD 111 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 111 (3 credit hours)****Cutting Processes Lab**

Designed to provide the student with practical experience to become proficient in the use of various metal cutting processes. Safety, setup, and operating techniques are employed. Students will troubleshoot and make minor repairs to equipment. Students will also learn to identify, repair, and prevent reoccurrence of cut surface discontinuities. Processes shall include, but not limited to: OFC, PAC, AAC, and mechanical methods. Various materials will be used where appropriate. Lab: 3 credits (90 contact hours/30:1 ratio)

**Co-requisite:** WLD 110 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 120 (2 credit hours)****Shielded Metal Arc Welding**

Teaches students the identification, inspection, and maintenance of SMAW electrodes; principles of SMAW; the effects of variables on the SMAW process to weld plate and pipe; and metallurgy. Lecture: 2 credits (30 contact hours).

**Co-requisite:** WLD 121 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 121 (3 credit hours)****Shielded Metal Arc Welding Fillet Lab**

Provides laboratory experiences in which the student acquires the manipulative skills to perform fillet welds in all positions. Lab: 3 credits (90 contact hours/30:1 ratio)

**Co-requisite:** WLD 120 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 123 (3 credit hours)****Shielded Metal Arc Welding Groove with Backing Lab**

Provides experiences in which students acquire the manipulative skills to do groove welds in all positions with backing. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 120 and 121 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 130 (2 credit hours)****Gas Tungsten Arc Welding**

Identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; the effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting. Lecture: 2 credits (30 contact hours).

**Co-requisite:** WLD 131 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 131 (3 credit hours)****Gas Tungsten Arc Welding Fillet Lab**

Teaches the necessary manipulative skills needed to apply the Gas Tungsten Arc on various joint designs on plate with both ferrous and non-ferrous metals. Plasma Arc cutting included. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Co-requisite:** WLD 130 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 133 (3 credit hours)****Gas Tungsten Arc Welding Groove Lab**

Teaches the method of operation and application of the gas tungsten arc welding process for welding groove welds in both ferrous and non-ferrous plate in all positions. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 130 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 140 (2 credit hours)****Gas Metal Arc Welding**

Identification, inspection, and maintenance of GMAW machines; identification, selection, and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW and SAW and metallurgy are also included. Lecture: 2 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 141 (3 credit hours)****Gas Metal Arc Welding Fillet Lab**

Teaches the practical application and manipulative skills of Gas Metal Arc Welding and the proper safety situations needed in this process. Both ferrous and non-ferrous metals will be covered, as well as various joint designs on plate in all positions. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Co-requisite:** WLD 140 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 143 (3 credit hours)****Gas Metal Arc Welding Groove Lab**

Teaches the method of operation and application of the gas metal arc welding process for welding groove welds in both ferrous and non-ferrous plate in all positions using both short circuiting and spray transfer where appropriate. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 140 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 145 (1 credit hours)****Gas Metal Arc Welding Aluminum Lab**

Teaches welding aluminum using the GMAW process. Fillets and groove welds are made in all positions in both plate and pipe. Short Circuiting and Spray transfers are used where appropriate. Laboratory: 1 credit (30 contact hours/30:1 ratio)

**Pre-requisite:** WLD 140 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 147 (1 credit hours)****Flux Cored Arc Welding Lab**

Acquaints the student with the method of operation and application of the flux cored welding system. Laboratory: 1 credit (30 contact hours/30:1 ratio).

**Pre-requisite:** WLD 140 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 151 (2 credit hours)****Basic Welding A**

Introduction to welding, cutting processes, and related equipment. Basic setup, operation, and related safety are applied. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture

**WLD 152 (5 credit hours)****Basic Welding B**

An introduction to common cutting and welding processes used in industry. Theory, setup, operation, and related safety are applied. Lecture: 2 credits (30 contact hours); Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory, LEC: Lecture



**WLD 161 (1 credit hours)****Submerged Arc Welding Lab**

Designed to provide the student with a working knowledge of SAW set-up, maintenance, and consumable identification. Includes practice in basic SAW principles and techniques related to the field of study. Laboratory: 1 credit (30 contact hours/30:1 ratio).

**Pre-requisite:** WLD 140 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 170 (2 credit hours)****Blueprint Reading for Welding**

Provides a study of occupationally specific prints for welders. Advanced study of multi-view drawings, assembly drawings, datum dimensions, numerical control drawings, sheet metal prints, castings and forgings, instrumentation and control charts and diagrams, working drawings, geometric dimensioning and tolerancing and use of reference materials and books are included. Occupational specifics including welding drawings, symbols, joint types, grooves, pipe welding symbols, testing symbols and specification interpretations are stressed. Lecture: 2 credits (30 contact hours).

**Co-requisite:** WLD 171 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 171 (3 credit hours)****Blueprint Reading for Welding Lab**

Provides students with an understanding of the fabrication process through computer modeling systems and creation of prints or through practice fabricating from a blueprint. Allows students to read and fabricate from detail prints, control distortion during fabrication, and follow proper welding sequence. Provides the option to generate detailed prints, create digital files, and generate work detailing the proper welding sequences. Utilizes welding symbols and study weld sizes and strengths. Lab: 3 credits (90 contact hours/30:1 ratio).

**Co-requisite:** WLD 170 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 181 (1 credit hours)****Advanced Welding Systems Lab**

Provides the student a working knowledge and hands on experience using advanced arc welding machines (STT surface tension transfer and pulsed GMA welding) on various joints and metals. Laboratory: 1 credit (30 contact hours/30:1 ratio). Prerequisite: WLD 140 and 141 and 143 or Consent of Instructor.

**Components:** LAB: Laboratory

**WLD 198 (1-6 credit hours)****Special Topics in Welding**

Various Welding Technology topics, issues and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructor; course may be repeated with different topics to a maximum of six credit hours. Lecture: Varies. Laboratory: Varies.

**Pre-requisite:** Consent of instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 220 (2 credit hours)****Welding Certification**

Provides the student with a working knowledge of certification encountered in welding. The student will start with developing a WPS, qualify the WPS, and qualify personnel. Documents used in welding certification are developed and used. Lecture: 2 credits (30 contact hours).

**Co-requisite:** WLD 221 or Consent of Instructor.

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 221 (3 credit hours)****Welding Certification Lab**

Provides students an opportunity to test on all types of welding for certification standards. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Co-requisite:** WLD 220 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 225 (3 credit hours)****Shielded Metal Arc Welding Open Groove Lab**

Designed to build upon SMAW Plate Lab I & II. Offers the student the opportunity to advance skills in the practical aspects of vee-butt plate welding using SMAW. Lab: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 120 and 121 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 227 (3 credit hours)****Shielded Metal Arc Welding Pipe Lab A**

Teaches the required manipulative skills to arc weld pipe using mild steel electrodes in the 2G and 5G positions including proper pipe preparations, electrodes, safety precautions, and welding sequences. Fillet welds on pipe joints are also included in 2F, 2FR, 4F, and 5F positions. Lab: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 225 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 229 (3 credit hours)****Shielded Metal Arc Welding Pipe Lab B**

Teaches the required manipulative skills to arc weld pipe using mild steel electrodes in the 6G position including proper pipe preparations, electrodes, safety precautions, and welding sequences. Lab: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 225 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 235 (3 credit hours)****Gas Tungsten Arc Welding Pipe Lab A**

Teaches the method of operation and application of the gas tungsten arc welding system for welding of both ferrous and non-ferrous pipe in 2G and 5G positions. Lab: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 133 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 237 (3 credit hours)****Gas Tungsten Arc Welding Pipe Lab B**

Teaches the method of operation and application of the gas tungsten arc welding process for welding of both ferrous and non-ferrous pipe in 6G position. Lab: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 133 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 239 (1 credit hours)****Orbital Tube Welding**

Familiarizes students with the orbital weld system, basic setup, operation, and safety. Laboratory: 1 credit (30 contact hours).

**Pre-requisite:** WLD 130 & WLD 131 or Permission of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 240 (2 credit hours)****Materials Technology**

Provides the student with a working knowledge of materials used in welding. This class includes materials identification and classification. Metallurgy is included with a detailed analysis of physical, mechanical, and chemical properties. Introduces the student to the application of metallurgy to welding including preheat, interpass temperature, and post-weld heat treatment and their effects on welding and welding's effect on them. Lecture: 2 credits (30 contact hours)

**Attributes:** Technical

**Components:** LEC: Lecture

**WLD 245 (3 credit hours)****Gas Metal Arc Welding Pipe Lab A**

Acquaints the student with the operation and application of the Gas Metal Arc System for welding pipe in 2G and 5G positions. Laboratory: 3 credits (90 contact hours/30:1 ratio).

**Co-requisite:** WLD 143 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 247 (3 credit hours)****Gas Metal Arc Welding Pipe Lab B**

Acquaints the student with the operation and application of the Gas Metal Arc System for welding groove welds in pipe in 6G position. Lab: 3 credits (90 contact hours/30:1 ratio).

**Pre-requisite:** WLD 143 or Consent of Instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 251 (1-6 credit hours)****Welding Automation Lab**

Provides the student a working knowledge and hands-on experience using automatic welding equipment such as robotic welding systems, bug-o systems, and automated GTA welding systems. Pre-requisite Or Lab: 1-6 credit hours (30-180 contact hours).

**Co-requisite:** WLD 140/141, or consent of instructor.

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 253 (1 credit hours)****Pipe Fitting and Template Development Lab**

Provides experiences in pipe template development and job knowledge and experience with the techniques and tools used to field layout, cut, and fit the various pipe joints that are used in pipe trades. Lab: 1 credit (30 contact hours/30:1 ratio).

**Attributes:** Technical

**Components:** LAB: Laboratory

**WLD 298 (1-6 credit hours)****Welding Practicum**

Provides on-the-job work experience related to the student's educational objectives. Students participating in the Practicum do not receive compensation. Laboratory: 1-6 credits (30-180 contact hours/30:1 ratio).

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**WLD 299 (1-6 credit hours)****Cooperative Education Program**

Provides supervised on-the-job work experience related to the student's educational objectives. Co-Op: Varies.

**Pre-requisite:** Consent of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op

## Womens Studies (WGS)

**WGS 200 (3 credit hours)****Introduction to Women's and Gender Studies in the Social Sciences**

Introduces women's and gender studies from a social science perspective, using a cross-cultural and interdisciplinary approach. Emphasizes social science explanations for sex-typed behavior, social perceptions of women and men, and the roles of women in social and cultural life. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, SB - Social Behavior Science

**Components:** LEC: Lecture

**WGS 201 (3 credit hours)****Introduction to Women's and Gender Studies in the Arts and Humanities**

Introduces women's and gender studies from a humanities perspective, using a cross-cultural and interdisciplinary approach including art and literature. Examines issues and problems of women in contemporary society through the lens of race, gender, class, and socio-political spheres. Lecture: 3 credits (45 contact hours).

**Attributes:** Cultural Studies, AH - Arts and Humanities

**Components:** LEC: Lecture

**WGS 205U (3 credit hours)****Sexualities and Social Issues**

Cross-listed as SOC 205. An examination of the diversity of sexuality and related social issues in the United States and globally. Topics include culture, history, law, mass media, politics, and religion. Credit will not be awarded to students who have credit for SOC 205 or WGS 302. Gen. Ed. E-6 [GE] Lecture: 3 credits (45 contact hours)

**Attributes:** Cultural Studies, University Course (Eastern Kentucky University)

**Components:** LEC: Lecture

**University Course:** Eastern Kentucky University

# Workplace Principles (WPP)

## **WPP 200 (3 credit hours)**

### **Workplace Principles**

Workplace Principles examines the changing workforce and the skills needed to adapt to constantly changing demands and expectations. The course includes but is not limited to problem solving, teamwork, time management, and self-management skills. Job-seeking and job-retention skills are taught through the development of resumes and job search materials. Maximum benefit is received if this course is taken in the latter part of the student's course work. Lecture: 3 credits (45 contact hours).

**Attributes:** Enrichment Course Other, Technical

**Components:** LEC: Lecture

## **WPP 2001 (1 credit hours)**

### **Soft Skills**

Workplace Principles examines the changing workforce and the skills needed to adapt to constantly changing demands and expectations. The course includes but is not limited to problem solving, teamwork, time management, and self-management skills. Lecture: 1.0 credits (15 contact hours).

**Attributes:** Enrichment Course Other

**Components:** LEC: Lecture

# APPENDIX

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## Appendix A

### Determination of Residency Status for Admission and Tuition Purposes

#### 13 KAR 2:045.

Determination of residency status for admission and tuition assessment purposes.

**Relates to:** KRS 13B, 164.020, 164.030, 164A.330(6), 38 U.S.C. 3301-3325

**Statutory Authority:** KRS 164.020(8)

**Necessity, Function, and Conformity:** KRS 164.020(8) requires the Council on Postsecondary Education to determine tuition and approve the minimum qualifications for admission to a state postsecondary education institution and authorizes the Council to set different tuition amounts for residents of Kentucky and for nonresidents. This administrative regulation establishes the procedure and guidelines for determining the residency status of a student who is seeking admission to, or who is enrolled at, a state-supported postsecondary education institution.

#### Section 1. Definitions.

1. "Academic term" means a division of the school year during which a course of studies is offered, and includes a semester, quarter, or single consolidated summer term as defined by the institution.
2. "Continuous enrollment" means enrollment in a state-supported postsecondary education institution at the same degree level for consecutive terms, excluding summer term, since the beginning of the period for which continuous enrollment is claimed unless a sequence of continuous enrollment is broken due to extenuating circumstances beyond the student's control, such as serious personal illness or injury, or illness or death of a parent.
3. "Degree level" means enrollment in a course or program that could result in the award of a:
  - a. Certificate, diploma, or other program award at an institution;
  - b. Baccalaureate degree or lower, including enrollment in a course by a nondegree-seeking post baccalaureate student;
  - c. Graduate degree or graduate certification other than a first-professional degree in law, medicine, dentistry, or "Pharm. D"; or
  - d. Professional degree in law, medicine, dentistry, or "Pharm. D".
4. "Dependent person" means a person who cannot demonstrate financial independence from parents or persons other than a spouse and who does not meet the criteria for independence established in Section 5 of this administrative regulation.
5. "Determination of residency status" means the decision of a postsecondary education institution that results in the classification of a person as a Kentucky resident or as a nonresident for admission and tuition assessment purposes.
6. "Domicile" means a person's true, fixed, and permanent home and is the place where the person intends to remain indefinitely, and to which the person expects to return if absent without intending to establish a new domicile elsewhere.
7. "Full-time employment" means continuous employment for at least forty-eight (48) weeks at an average of at least thirty (30) hours per week.
8. "Independent person" means a person who demonstrates financial independence from parents or persons other than a spouse and who meets the criteria for independence established in Section 5 of this administrative regulation.
9. "Institution" means an entity defined by KRS 164.001(12) if the type of institution is not expressly stated and includes the Kentucky Virtual University, the Council on Postsecondary Education, and the Kentucky Higher Education Assistance Authority.
10. "Kentucky resident" means a person determined by an institution for tuition purposes to be domiciled in, and a resident of, Kentucky as determined by this administrative regulation.
11. "Nonresident" means a person who:
  - a. Is domiciled outside Kentucky;
  - b. Currently maintains legal residence outside Kentucky; or
  - c. Is not a Kentucky resident as determined by this administrative regulation.
12. "Parent" means one (1) of the following:
  - a. A person's father or mother; or
  - b. A court-appointed legal guardian if:
    - i. The guardianship is recognized by an appropriate court within the United States;
    - ii. There was a relinquishment of the rights of the parents; and
    - iii. The guardianship was not established primarily to confer Kentucky residency on the person.
13. "Preponderance of the evidence" means the greater weight of evidence or evidence that is more credible and convincing to the mind.
14. "Residence" means the place of abode of a person and the place where the person is physically present most of the time for a noneducational purpose in accordance with Section 3 of this administrative regulation.
15. "Student financial aid" means all forms of payments to a student if one (1) condition of receiving the payment is the enrollment of the student at an institution, and includes student employment by the institution or a graduate assistantship.
16. "Sustenance" means:
  - a. Living expenses, such as room, board, maintenance, and transportation; and
  - b. Educational expenses, such as tuition, fees, books, and supplies.

#### Section 2. Scope.

1. State-supported postsecondary education institutions were established and are maintained by the Commonwealth of Kentucky primarily for the benefit of qualified residents of Kentucky. The substantial commitment of public resources to postsecondary education is predicated on the proposition that the state benefits significantly from the existence of an educated citizenry. As a matter of policy, access to postsecondary education shall be provided so far as feasible at reasonable cost to a qualified individual who is domiciled in Kentucky and who is a resident of Kentucky.
2. In accordance with the duties established in KRS 164.020, the Council on Postsecondary Education may require a student who is neither



domiciled in, nor a resident of, Kentucky to meet higher admission standards and to pay a higher level of tuition than resident students.

3. Unless otherwise indicated, this administrative regulation shall apply to all student residency determinations, regardless of circumstances, including residency determinations made by:
  - a. The state-supported institutions for prospective and currently-enrolled students;
  - b. The Southern Regional Education Board for contract spaces;
  - c. Reciprocity agreements, if appropriate;
  - d. The Kentucky Virtual University;
  - e. Academic common market programs;
  - f. The Kentucky Educational Excellence Scholarship Program; and
  - g. Other state student financial aid programs, as appropriate.

### **Section 3. Determination of Residency Status; General Rules.**

1. A determination of residency shall include:
  - a. An initial determination of residency status by an institution:
    - i. During the admission process;
    - ii. Upon enrollment in an institution for a specific academic term; or
    - iii. For admission into a specific academic program;
  - b. A reconsideration of a determination of residency status by an institution based upon a changed circumstance; or
  - c. A formal hearing conducted by an institution upon request of a student after other administrative procedures have been completed.
2. An initial determination of residency status shall be based upon:
  - a. The facts in existence when the credentials established by an institution for admission for a specific academic term have been received and during the period of review by the institution;
  - b. Information derived from admissions materials;
  - c. If applicable, other materials required by an institution and consistent with this administrative regulation; and
  - d. Other information available to the institution from any source.
3. An individual seeking a determination of Kentucky residency status shall demonstrate that status by a preponderance of the evidence.
4. A determination of residency status shall be based upon verifiable circumstances or actions.
5. Evidence and information cited as the basis for Kentucky domicile and residency shall accompany the application for a determination of residency status.
6. A student classified as a nonresident shall retain that status until the student is officially reclassified by an institution.
7. A student may apply for a review of a determination of residency status once for each academic term.
8. If an institution has information that a student's residency status may be incorrect, the institution shall review and determine the student's correct residency status.
9. If the Council on Postsecondary Education has information that an institution's determination of residency status for a student may be incorrect, it may require the institution to review the circumstances and report the results of that review.
10. An institution shall impose a penalty or sanction against a student who gives incorrect or misleading information to an institutional official, including payment of nonresident tuition for each academic term for which resident tuition was assessed based on an improper determination of residency status. The penalty or sanction may also include:

- a. Student discipline by the institution through a policy written and disseminated to students; or
- b. Criminal prosecution.

### **Section 4. Presumptions Regarding Residency Status.**

1. In making a determination of residency status, it shall be presumed that a person is a nonresident if:
  - a. A person is, or seeks to be, an undergraduate student and admissions records show the student to be a graduate of an out-of-state high school within five (5) years prior to a request for a determination of residency status;
  - b. A person's admissions records indicate the student's residence to be outside of Kentucky when the student applied for admission;
  - c. A person moves to Kentucky primarily for the purpose of enrollment in an institution;
  - d. A person moves to Kentucky and within twelve (12) months enrolls at an institution more than half time;
  - e. A person has a continuous absence of one (1) year from Kentucky; or
  - f. A person attended an out-of-state higher education institution during the past academic year and paid in-state tuition at that institution.
2. A presumption arising from subsection (1) of this section shall only be overcome by preponderance of evidence sufficient to demonstrate that a person is domiciled in and is a resident of Kentucky.

### **Section 5. Determination of Whether a Student is Dependent or Independent.**

1. In a determination of residency status, an institution shall first determine whether a student is dependent or independent. This provision shall be predicated on the assumption that a dependent person lacks the financial ability to live independently of the person upon whom the student is dependent, and therefore, lacks the ability to form the requisite intent to establish domicile. A determination that a student is independent shall be one (1) step in the overall determination of whether a student is or is not a resident of Kentucky.
2. In determining the dependent or independent status of a person, the following information shall be considered, as well as other relevant information available when the determination is made:
  - a. Whether the person has been claimed as a dependent on the federal or state tax returns of a parent or other person for the year preceding the date of application for a determination of residency status; or
  - b. Whether the person is no longer claimed by a parent or other person as a dependent or as an exemption for federal and state tax purposes; and
  - c. Whether the person has financial earnings and resources independent of a person other than an independent spouse necessary to provide for the person's own sustenance.
3. An individual who enrolls at an institution immediately following graduation from high school and remains enrolled shall be presumed to be a dependent person unless the contrary is evident from the information submitted.
4. Domicile may be inferred from the student's permanent address, parent's mailing address, or location of high school of graduation.
5. Marriage to an independent person domiciled in and who is a resident of Kentucky shall be a factor considered by an institution in determining whether a student is dependent or independent.

6. Financial assistance from, or a loan made by, a parent or family member other than an independent spouse, if used for sustenance of the student:
  - a. Shall not be considered in establishing a student as independent; and
  - b. Shall be a factor in establishing that a student is dependent.

### **Section 6. Effect of a Determination of Dependent Status on a Determination of Residency Status.**

1. The effect of a determination that a person is dependent shall be:
  - a. The domicile and residency of a dependent person shall be the same as either parent. The domicile and residency of the parent shall be determined in the same manner as the domicile and residency of an independent person; and
  - b. The domicile and residency of a dependent person whose parents are divorced, separated, or otherwise living apart shall be Kentucky if either parent is domiciled in and is a resident of Kentucky, regardless of which parent has legal custody or is entitled to claim that person as a dependent pursuant to federal or Kentucky income tax provisions.
2. If the parent or parents of a dependent person are Kentucky residents and are domiciled in Kentucky, but subsequently move from the state:
  - a. The dependent person shall be considered a resident of Kentucky while in continuous enrollment at the degree level in which currently enrolled; and
  - b. The dependent person's residency status shall be reassessed if continuous enrollment is broken or the current degree level is completed.

### **Section 7. Member or Former Member of Armed Forces of the United States, Spouse and Dependents; Effect on a Determination of Residency Status.**

1. A member, spouse, or dependent of a member whose domicile and residency was Kentucky when inducted into the Armed Forces of the United States, and who maintains Kentucky as home of record and permanent address, shall be entitled to Kentucky residency status:
  - a. During the member's time of active service; or
  - b. If the member returns to this state within six (6) months of the date of the member's discharge from active duty.
2.
  - a. A member of the armed services on active duty for more than thirty (30) days and who has a permanent duty station in Kentucky shall be classified as a Kentucky resident and shall be entitled to in-state tuition, as shall the spouse or a dependent child of the member.
  - b. A member, spouse, or dependent of a member shall not lose Kentucky residency status if the member is transferred on military orders while the member, spouse, or dependent requesting the status is in continuous enrollment at the degree level in which currently enrolled.
3. Membership in the National Guard or civilian employment at a military base alone shall not qualify a person for Kentucky residency status under the provisions of subsections (1) and (2) of this section. If a member of the Kentucky National Guard is on active duty status for a period of not less than thirty (30) days, the member shall be considered a Kentucky resident, as shall the spouse or a dependent child of the member.
4. A person eligible for benefits under the federal Post-9/11 Veterans Educational Assistance Act of 2008, 38 U.S.C. 3301-3325, or any other educational benefits provided under Title 38 of the United

States Code shall be entitled to Kentucky resident status for purposes of tuition charged at state-supported institutions.

5. A person's residency status established pursuant to this section shall be reassessed if the qualifying condition is terminated.

### **Section 8. Status of Nonresident Aliens; Visas and Immigration.**

1.
  - a. A person holding a permanent residency visa or classified as a political refugee shall establish domicile and residency in the same manner as another person.
  - b. Time spent in Kentucky and progress made in fulfilling the conditions of domicile and residency prior to obtaining permanent residency status shall be considered in establishing Kentucky domicile and residency.
2. A person holding a nonimmigrant visa with designation A, E, G, H-1, H-4 if accompanying a person with an H-1 visa, I, K, L, N, R, shall establish domicile and residency the same as another person.
3.
  - a. An independent person holding a nonimmigrant visa with designation B, C, D, F, H-2, H3, H-4 if accompanying a person with an H-2 or H-3 visa, J, M, O, P, Q, S, TD, or TN shall not be classified as a Kentucky resident because that person does not have the capacity to remain in Kentucky indefinitely and therefore cannot form the requisite intent necessary to establish domicile as defined in Section 1(6) of this administrative regulation.
  - b. A dependent person holding a visa as described in paragraph (a) of this subsection, but who is a dependent of a parent holding a visa as described in subsection (2) of this section, shall be considered as holding the visa of the parent.
  - c. A dependent person holding a visa described in subsection (2) of this section or paragraph (a) of this subsection, if a parent is a citizen of the United States and is a resident of and domiciled in Kentucky, shall be a resident of Kentucky for the purposes of this administrative regulation.
4. A person shall be a Kentucky resident for the purpose of this administrative regulation if the person graduated from a Kentucky high school and:
  - a. Is an undocumented alien;
  - b. Holds a visa listed in subsections (2) or (3)(a) of this section; or
  - c. Is a dependent of a person who holds a visa listed in subsections (2) or (3)(a) of this section.
5.
  - a. Except as provided in paragraph (b) of this subsection, a person who has petitioned the federal government to reclassify visa status shall continue to be ineligible until the petition has been granted by the federal government.
  - b. A person who has petitioned the federal government to reclassify his or her visa status based on marriage to a Kentucky resident and who can demonstrate that the petition has been filed and acknowledged by the federal government, may establish Kentucky domicile and residency at that time.

### **Section 9. Beneficiaries of a Kentucky Educational Savings Plan Trust.**

A beneficiary of a Kentucky Educational Savings Plan Trust shall be granted residency status if the beneficiary meets the requirements of KRS 164A.330(6).

## Section 10. Criteria Used in a Determination of Residency Status.

1.
  - a. A determination of Kentucky domicile and residency shall be based upon verifiable circumstances or actions.
  - b. A single fact shall not be paramount, and each situation shall be evaluated to identify those facts essential to the determination of domicile and residency.
  - c. A person shall not be determined to be a Kentucky resident by the performance of an act that is incidental to fulfilling an educational purpose or by an act performed as a matter of convenience.
  - d. Mere physical presence in Kentucky, including living with a relative or friend, shall not be sufficient evidence of domicile and residency.
  - e. A student or prospective student shall respond to all requests for information regarding domicile or residency requested by an institution.
2. The following facts, although not conclusive, shall have probative value in their entirety and shall be individually weighted, appropriate to the facts and circumstances in each determination of residency:
  - a. Acceptance of an offer of full-time employment or transfer to an employer in Kentucky or contiguous area while maintaining residence and domicile in Kentucky;
  - b. Continuous physical presence in Kentucky while in a nonstudent status for the twelve (12) months immediately preceding the start of the academic term for which a classification of Kentucky residency is sought;
  - c.
    - i. Filing a Kentucky resident income tax return for the calendar year preceding the date of application for a change in residency status; or
    - ii. Payment of Kentucky withholding taxes while employed during the calendar year for which a change in classification is sought;
  - d. Full-time employment of at least one (1) year while living in Kentucky;
  - e. Attendance as a full-time, nonresident student at an out-of-state institution based on a determination by that school that the person is a resident of Kentucky;
  - f. Abandonment of a former domicile or residence and establishing domicile and residency in Kentucky with application to or attendance at an institution following and incidental to the change in domicile and residency;
  - g. Obtaining licensing or certification for a professional and occupational purpose in Kentucky;
  - h. Payment of real property taxes in Kentucky;
    - i. Ownership of real property in Kentucky, if the property was used by the student as a residence preceding the date of application for a determination of residency status;
    - j. Marriage of an independent student to a person who was domiciled in and a resident of Kentucky prior to the marriage; and
    - k. The extent to which a student is dependent on student financial aid in order to provide basic sustenance.
3. Except as provided in subsection (4) of this section, the following facts, because of the ease and convenience in completing them, shall have limited probative value in a determination that a person is domiciled in and is a resident of Kentucky:
  - a. Kentucky automobile registration;
  - b. Kentucky driver's license;
  - c. Registration as a Kentucky voter;
  - d. Long-term lease of at least twelve (12) consecutive months of noncollegiate housing; and
  - e. Continued presence in Kentucky during academic breaks.
4. The absence of a fact contained in subsection (3) of this section shall have significant probative value in determining that a student is not domiciled in or is not a resident of Kentucky.

## Section 11. Effect of a Change in Circumstances on Residency Status.

1. If a person becomes independent or if the residency status of a parent or parents of a dependent person changes, an institution shall reassess residency either upon a request by the student or a review initiated by the institution.
2. Upon transfer to a Kentucky institution, a student's residency status shall be assessed by the receiving institution.
3. A reconsideration of a determination of residency status for a dependent person shall be subject to the provisions for continuous enrollment, if applicable.

## Section 12. Student Responsibilities.

1. A student shall report under the proper residency classification, which includes the following actions:
  - a. Raising a question concerning residency classification;
  - b. Making application for change of residency classification with the designated office or person at the institution; and
  - c. Notifying the designated office or person at the institution immediately upon a change in residency.
2. If a student fails to notify an institutional official of a change in residency, an institutional official may investigate and evaluate the student's residency status.
3. If a student fails to provide, by the date specified by the institution, information required by an institution in a determination of residency status, the student shall be notified by the institution that the review has been canceled and that a determination has been made.
  - a. Notification shall be made by registered mail, return receipt requested.
  - b. Notification shall be made within ten (10) calendar days after the deadline for receipt of materials has passed.
4.
  - a. The formal hearing conducted by an institution and the final recommended order shall be a final administrative action with no appeal to the Council on Postsecondary Education.
  - b. A formal administrative hearing conducted by the Council on Postsecondary Education for residency determinations related to eligibility for the Academic Common Market and Regional Contract Programs shall be conducted pursuant to the provisions of KRS Chapter 13B and 13 KAR 2:070. The recommended order issued by the President of the Council shall be a final administrative action.
5. A student shall not be entitled to appeal a determination of residency status if the determination made by an institution is because a student has failed to meet published deadlines for the submission of information as set forth in subsection (3) of this section. A student may request a review of a determination of residency status in a subsequent academic term.

**Section 13. Institutional Responsibilities.****Each institution shall:**

1. Provide for an administrative appeals process that includes a residency appeals officer to consider student appeals of an initial residency determination and which shall include a provision of fourteen (14) days for the student to appeal the residency appeals officer's determination;
2. Establish a residency review committee to consider appeals of residency determinations by the residency appeals officer. The residency review committee shall make a determination of student residency status and notify the student in writing within forty-five (45) days after receipt of the student appeal;
3. Establish a formal hearing process as described in Section 14 of this administrative regulation; and
4. Establish written policies and procedures for administering the responsibilities established in subsections (1), (2), and (3) of this section and that are:
  - a. Approved by the institution's governing board;
  - b. Made available to all students; and
  - c. Filed with the council.

**Section 14. Formal Institutional Hearing.**

1. A student who appeals a determination of residency by a residency review committee shall be granted a formal hearing by an institution if the request is made by a student in writing within fourteen (14) calendar days after notification of a determination by a residency review committee.
2. If a request for a formal hearing is received, an institution shall appoint a hearing officer to conduct a formal hearing. The hearing officer shall:
  - a. Be a person not involved in determinations of residency at an institution except for formal hearings; and
  - b. Not be an employee in the same organizational unit as the residency appeals officer.
3. An institution shall have written procedures for the conduct of a formal hearing that have been adopted by the board of trustees or regents, as appropriate, and that provide for:
  - a. A hearing officer to make a recommendation on a residency appeal;
  - b. Guarantees of due process to a student that include:
    - i. The right of a student to be represented by legal counsel; and
    - ii. The right of a student to present information and to present testimony and information in support of a claim of Kentucky residency; and
  - c. A recommendation to be issued by the hearing officer.
4. An institution's formal hearing procedures shall be filed with the Council on Postsecondary Education and shall be available to a student requesting a formal hearing.

**Section 15. Cost of Formal Hearings.**

1. An institution shall pay the cost for all residency determinations including the cost of a formal hearing.
2. A student shall pay for the cost of all legal representation in support of the student's claim of residency. (17 Ky.R. 2557; eff. 4-5-1991; Am. 22 Ky.R. 1656; 1988; eff. 5-16-1996; 23 Ky.R. 3380; 3797; 4099; eff. 6-16-1997; 24 Ky.R. 2136; 2705; 25 Ky.R. 51; eff. 7-13-1998; 25 Ky.R. 2177; 2577; 2827; eff. 6-7-1999; 749; 1238; eff. 11-12-2002; 36 Ky.R. 1083; 1951; 2033-M; eff. 4-2-2010; TAm eff. 11-20-2014; 41 Ky.R. 2108; 42 Ky.R. 9; eff. 7-13-2015; TAm 7-13-2015).



## Appendix B

### Math Course Transitions

#### Crosswalk – Mathematics

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	MA 109	College Algebra
MAT 159	Analytical Geometry and Trigonometry	MA 110	Analytical Geometry and Trigonometry
	Dropped	MA 111	Contemporary Mathematics
MAT 154	Trigonometry	MA 112	Trigonometry
MAT 174	Calculus I	MA 113	Calculus I
MAT 184	Calculus II	MA 114	Calculus II
	Dropped	MA 123	Elementary Calculus
	Dropped	MA 162	Finite Mathematics and its Applications
	Dropped	MA 193	Supplementary Mathematics Workshop I: (Topic)
	Dropped	MA 194	Supplementary Mathematics Workshop II: (Topic)
	Dropped	MA 201	Mathematics for Elementary Teachers
	Dropped	MA 202	Mathematical Problem Solving for Elementary Teachers
	Dropped	MA 213	Calculus III
	Dropped	MA 214	Calculus IV
	Dropped	MA 241	Geometry for Middle School Teachers
	Dropped	MAH 155	Applied Mathematics
	Dropped	MAT 115	Mathematics for Middle & Elementary Teachers I
	Dropped	MAT 121	Mathematics for Business
	Dropped	MAT 125	Technical Mathematics
	Dropped	MAT 215	Mathematics for Middle & Elementary Teachers II
	Dropped	MATH 109	Technical Mathematics

	Dropped	MATH 151	Mathematics for Elementary Education I
	Dropped	MATH 152	Mathematics for Elementary Education II
	Dropped	MATH 211	Mathematics for Elementary Teachers I
	Dropped	MATH 212	Mathematics for Elementary Teachers II
	Dropped	STA 200	Statistics: A Force in Human Judgment
	Dropped	STA 291	Statistical Methods
MAT 100	College Algebra Workshop	MT 100	College Algebra Workshop
MAT 105	Business Mathematics	MT 105	Business Mathematics
MAT 110	Applied Mathematics	MT 110	Applied Mathematics
MAT 1101	Logic and Reasoning	MT 1101	Logic and Reasoning
MAT 1102	Statistics	MT 1102	Statistics
MAT 1103	Algebra and Graphing	MT 1103	Algebra and Graphing
MAT 1104	Consumer Math, Geometry and Measurement	MT 1104	Consumer Math, Geometry and Measurement
MAT 116	Technical Mathematics	MT 115	Technical Mathematics
MAT 126	Technical Algebra and Trigonometry	MT 125	Technical Algebra and Trigonometry
	Dropped	MT 139	Instructor Consent Required AAS Mathematics: (Topic)
MAT 146	Contemporary College Mathematics	MT 145	Contemporary College Mathematics
MAT 150	College Algebra	MT 150	College Algebra and Functions
MAT 155	Trigonometry	MT 155	Trigonometry
MAT 160	Precalculus	MT 160	Precalculus
MAT 165	Finite Mathematics and its Applications	MT 165	Finite Mathematics and its Applications
MAT 170	Brief Calculus with Applications	MT 170	Brief Calculus with Applications
MAT 175	Calculus I	MT 175	Calculus I
MAT 185	Calculus II	MT 185	Calculus II

MAT 205	Mathematics For Elementary and Middle School Teachers I	MT 205	Mathematics For Elementary and Middle School Teachers I	MT 139 AAS Mathematics Application: (Topic)	1-3		
MAT 206	Mathematics For Elementary and Middle School Teachers II	MAT 206	Mathematics For Elementary and Middle School Teachers II	MT 145 Contemporary College Mathematics	3	MT 120 or MT 122	MT 107
MAT 261	Introduction to Number Theory	MT 261	Introduction to Number Theory	MT 150 College Algebra	3	MT 120 or MT 122 or MT 125	MT 109
MAT 275	Calculus III	MT 275	Calculus III	MT 155 Trigonometry	3	MT 120 or MT 122 or MT 125	
MAT 285	Differential Equations	MT 285	Differential Equations	MT 190 Mathematics Workshop	1-2		
STA 210	Statistics: A Force in Human Judgment	ST 290	Statistics: A Force in Human Judgment				
STA 220	Statistics	ST 291	Statistical Methods				

## Historical Mathematics Course Transitions

Below is a table clarifying the math course transition that took place Fall 2004. Courses with the MT prefix that are below the 100-level are transitional courses. MT courses between 100 and 139 are specifically designed for occupational/technical programs. Courses numbered 140 and above are designed as transfer courses.

New Course	Credit	Prereq. Course	Replaces
MT 050 Dev. Math Workshop	1-2	None	MAH 065, MTH 199
MT 055 Pre-Algebra	3	None	MAH 060, MTH 100
MT 065 Basic Algebra w/ Measurement	3	MT 055	MAH 070, MTH 110
MT 075 Pre-College Geometry	3	MT 055	MAH 075
MT 100 College Algebra Workshop	2	MAH 100	
MT 105 Business Math.	3	MT 065	MAH 121
MT 110 Applied Math.	3	MT 065	MAH 151
MT 115 Technical Math.	3	MT 065	MAH 125, MTH 120, MTH 130, MTH 150
MT 120 Intermediate Algebra w/ Applications	3	MT 065	MAH 083, MA 108, MTH 160
MT 122 Intermediate Algebra: A Functional Approach	4	MT 065	MAH 080
MT 125 Technical Algebra.& Trigonometry	3	MT 065	MTH 170, MTH 175, MTH 101

## Appendix C

### Biology Crosswalk

This table includes changes made to Biology courses effective Fall 2010.

Biology Topics	New Course #	Old Course #	Course Title
Transitional Biology Courses	BIO 026	BSL 025	Orientation to College Biology
	BIO 112	BIO 103	Introduction to Biology
General Education Biology Courses	BIO 113	BIO 111	Introduction to Biology Lab
	BIO 114	BSL 102	Biology I
	BIO 115	BSL 100	Biology Laboratory I
	BIO 116	BSL 103	Biology II
	BIO 117	BSL 101	Biology Laboratory II
	BIO 118		Microbes and Society
	BIO 220	BIO 204	The Genetic Perspective
	Dropped	BSL 214	Medical Microbiology
	Dropped	BSL 244	Principles of Environmental Science
	Dropped	PGY 206	Elementary Physiology
Ecology Courses	BIO 120	BIO 102	Human Ecology
	BIO 121		Introduction to Ecology Laboratory
	BIO 122	BSL 116	Introduction to Conservation Ecology
	BIO 124	BSL 120	Principles of Ecology
Anatomy and Physiology Courses	BIO 130	BSL 109	Aspects of Human Biology
	BIO 135	BSL 107	Basic Anatomy and Physiology with Lab
	BIO 137	BSL 110	Human Anatomy and Physiology I with Lab
	BIO 139	BSL 111	Human Anatomy and Physiology II with Lab
Organismal Biology Courses	BIO 140	BIO 106/BSL 140	Botany
	BIO 141	BIO 106/BSL 140 and BIO 107	Botany with Laboratory
	BIO 142	BIO 104/BSL 160	Zoology
	BIO 143	BIO 104/BSL 160 and BIO 105	Zoology with Laboratory
Biology Majors Courses (No Changes)	BIO 150	BIO 150	Principles of Biology I
	BIO 151	BIO 151	Principles of Biology Laboratory I
	BIO 152	BIO 152	Principles of Biology II
	BIO 153	BIO 153	Principles of Biology Laboratory II
Molecular and Microbiology Courses	BIO 220	BIO 204	The Genetic Perspective
	Dropped	BSL 214	Medical Microbiology
	Dropped	BSL 244	Principles of Environmental Science
	Dropped	PGY 206	Elementary Physiology
	BIO 224	BSL 215	Introduction to Molecular and Cell Biology
	BIO 225	BSL 212	Medical Microbiology with Lab
	BIO 226	BIO 208	Principles of Microbiology
	BIO 227	BIO 208/BIO 209	Principles of Microbiology with Laboratory
Selected/Special Topics	BIO 295	BSL 295	Independent Investigation in Biology
	BIO 299	BSL 299	Selected Topics in Biology: Topic

## Appendix D

### Crosswalk for Chemistry Courses

Approved Course Prefix/Number	Approved Course Title Implementation Fall 2009	Old Course Prefix/Number	Old Course Title
Deactivated		CHE 115	General Chemistry Laboratory
CHE 120	Chemistry in Society <sup>1</sup>	CHM 101	Chemistry: A Cultural Approach
CHE 125	Chemistry in Society Laboratory <sup>1</sup>	New	
CHE 130	Introductory General and Biological Chemistry <sup>1</sup>	CHM 100	Introductory General and Biological Chemistry
CHE 140	Introductory General Chemistry <sup>1</sup>	CHE 104	Introductory General Chemistry
CHE 145	Introductory General Chemistry Laboratory <sup>1</sup>	CHM 104	Introductory General Chemistry Laboratory
CHE 150	Introduction to Organic and Biological Chemistry <sup>1</sup>	CHE 106	Introduction to Inorganic, Organic, and Biochemistry
CHE 155	Introduction to Organic and Biological Chemistry Laboratory <sup>1</sup>	New	
CHE 160	Preparation for General College Chemistry	CHM 102	Preparation for General College Chemistry
CHE 170	General College Chemistry I <sup>1</sup>	CHE 105	General College Chemistry I
CHE 173	General College Chemistry I Workshop	New	
CHE 175	General College Chemistry Laboratory I <sup>1</sup>	CHM 105	General Chemistry Laboratory I
CHE 180	General College Chemistry II <sup>1</sup>	CHE 107	General College Chemistry II
CHE 183	General College Chemistry II Workshop	New	
CHE 185	General College Chemistry Laboratory II <sup>1</sup>	CHM 107	General Chemistry Laboratory II
CHE 220	Analytical Chemistry <sup>1</sup>	CHE 226	Analytical Chemistry

CHE 270	Organic Chemistry I <sup>1</sup>	CHE 230	Organic Chemistry I
CHE 275	Organic Chemistry Laboratory I <sup>1</sup>	CHE 231	Organic Chemistry Laboratory I
CHE 280	Organic Chemistry II <sup>1</sup>	CHE 232	Organic Chemistry II
CHE 285	Organic Chemistry Laboratory II <sup>1</sup>	CHE 233	Organic Chemistry Laboratory II
CHE 290	Selected Topics in Chemistry: (Topic)	New	
CHE 295	Selected Topics in Chemistry Laboratory: (Topic)	New	
CHE 299	Laboratory Research in Chemistry: (Topic)	New	
Deactivated		CHEM 175	Applied General and Organic Chemistry

<sup>1</sup> General Education Status



## Appendix E - Curriculum Crosswalks

### Agricultural Technology: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
AGR 125	Introduction to Fertilizers and Soils	AG 125	Introduction to Fertilizers and Soils
AGR 130	Field Applications in Agriculture	AG 130	Field Applications in Agriculture
AGR 140	Issues in Agriculture	AG 140	Issues in Agriculture
AGR 150	Agriculture Power	AG 150	Agriculture Power
AGR 165	Agriculture Seminar	AG 160	Agriculture Seminar
AGR 170	Introduction to Equipment, Machines, and Engines	AG 170	Introduction to Equipment, Machines, and Engines
AGR 180	Agriculture Internship I	AG 180	Agriculture Internship I
AGR 190	Agriculture Internship II	AG 190	Agriculture Internship II
AGR 200	Agriculture Internship III	AG 200	Agriculture Internship III
AGR 220	Computers in the Agriculture Environment	AG 220	Computers in the Agriculture Environment
AGR 230	Career Development in Agriculture	AG 230	Career Development in Agriculture
AGR 240	Introduction to Animal Science	AG 240	Introduction to Animal Science
AGR 250	Introduction to Plants/Crop Production	AG 250	Introduction to Plants/Crop Production

### Agriculture: 2017-2018

New Course Number	New Course Name	Old Course Number	Old Course Name
AGR 115	Agriculture Maintenance	AGS 115	Agriculture Maintenance
AGR 135	Herbaceous Plant Production	AGS 135	Herbaceous Plant Production
AGR 145	Technology in Agriculture	AGS 145	Technology in Agriculture
AGR 155	Greenhouse Production	AGS 155	Greenhouse Production
AGR 175	Agriculture Marketing and Sales	AGS 175	Agriculture Marketing and Sales
AGR 205	Forage Management	AGS 205	Forage Management
AGR 215	Weed Management	AGS 215	Weed Management

AGR 225	Fruit and Vegetable Production	AGS 225	Fruit and Vegetable Production
AGR 235	Field Crop Production	AGS 235	Field Crop Production
AGR 245	Pest Management	AGS 245	Pest Management
AGR 255	Crop Scouting	AGS 255	Crop Scouting
AGR 265	Agriculture Business and Records	AGS 265	Agriculture Business and Records
AGR 275	Value Added Production	AGS 275	Value Added Production
AGR 285	Farm Financial Management	AGS 285	Farm Financial Management
AGR 295	Agriculture Capstone	AGS 295	Agriculture Studies Capstone

### Art: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
AAD 100	Introduction to Arts Administration		Same
	Dropped	AE 272	Workshop in Art Education
ART 100	Introduction to Art		Same
ART 104	Introduction to African Art	AH 104	Introduction to African Art
ART 105	Ancient through Medieval Art History	AH 105	Ancient through Medieval Art
ART 106	Renaissance Through Modern Art History	AH 106	Renaissance Through Modern Art
ART 112	2-Dimensional Design	ART 120	2-Dimensional Design
ART 113	3-Dimensional Design	ART 130	3-Dimensional Design
ART 201	Ancient Art History	AH 210	Ancient Art History
ART 202	Medieval Art	AH 211	Medieval Art
ART 203	Renaissance Art	AH 212	Renaissance Art
ART 204	Modern Art	AH 213	Modern Art
ART 208	Introduction to Art Education	AE 270	Introduction to Art Education
ART 211	Life Drawing	ART 200	Life Drawing
ART 221	Painting II	ART 230	Painting II
ART 240	Ceramics		Same
ART 241	Ceramics II	ART 250	Ceramics II
	Dropped	AS 102	Visual Exploration I
	Dropped	AS 103	Visual Exploration II
	Dropped	AS 215	Studio II

Dropped	ATS 299	Art Studio Topics: (Topic)
Dropped	GE 170	Art Appreciation

## Biotechnology: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
BTN 101	Introduction to Biotechnology	BT 101	Introduction to Biotechnology
BTN 110	Nucleic Acid Methods	BT 110	Nucleic Acid Methods
BTN 201	Biotechnology Techniques I	BT 201	Biotechnology Techniques I
BTN 202	Biotechnology Techniques II	BT 202	Biotechnology Techniques II
BTN 210	Cell Culture and Function	BT 210	Cell Culture and Function
BTN 220	Immunological Methods	BT 220	Immunological Methods

## Business Administration Systems: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	B&E 100	Introduction to Business and Economics
BAS 120	Personal Finance	BA 120	Personal Finance
	Dropped	BA 151	Introduction to Electronic Commerce
	Dropped	BA 152	Introduction to Web Design
	Dropped	BA 153	Intermediate Web Page Design
BAS 155	Personal Selling	BA 155	Personal Selling
BAS 160	Introduction to Business	BA 160	Introduction to Business
BAS 170	Entrepreneurship	BA 170	Entrepreneurship
	Dropped	BA 196	Introduction to Food Management Practicum
BAS 200	Small Business Management	BA 200	Small Business Management
BAS 212	Introduction to Financial Management	BA 212	Introduction to Financial Management
BAS 250	Business Employability Seminar	BA 250	Business Employability Seminar
BAS 256	International Business	BA 256	International Business
BAS 260	Professional Development and Protocol	BA 260	Professional Development and Protocol

BAS 267	Introduction to Business Law	BA 267	Introduction to Business Law
BAS 274	Human Resources Management	BA 274	Human Resources Management
BAS 280	Business Internship	BA 280	Business Internship
BAS 282	Principles of Marketing	BA 282	Principles of Marketing
BAS 283	Principles of Management	BA 283	Principles of Management
BAS 284	Applied Management Skills	BA 284	Applied Management Skills
BAS 285	Problems in Marketing and Management	BA 285	Problems in Marketing and Management
BAS 287	Supervisory Management	BA 287	Supervisory Management
BAS 288	Personal and Organizational Leadership	BA 288	Personal and Organizational Leadership
BAS 290	Management, Ethics, and Society	BA 290	Management, Ethics, and Society
BAS 289	Operations Management	BA 289	Operations Management
BAS 291	Retail Management	BA 291	Retail Management
BAS 293	Principles of Finance	BA 293	Principles of Finance
BAS 294	Money and Financial Institutions	BA 294	Money and Financial Institutions
BAS 295	International Finance	BA 295	International Finance
BAS 299	Selected Topics in Business Administration: (Topic)	BA 299	Selected Topics in Business Administration: (Topic)
HOS 100	Introduction to Hospitality Management	HM 100	Introduction to Hospitality Management
HOS 160	Security for the Hospitality Industry	HM 160	Security for the Hospitality Industry
HOS 200	Cultural Heritage Tourism	HM 200	Cultural Heritage Tourism
HOS 210	Front Office Operations	HM 210	Front Office Operations
HOS 282	Tourism Marketing	HM 282	Tourism Marketing

## Collision Repair Technology: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
CRT 100	Introduction to Collision Repair	ABR 100	Introduction to Auto Body Repair
CRT 130	Non-Structural Analysis and Damage Repair	ABR 130	Non-Structural Analysis and Damage Repair
CRT 131	Non-Structural Analysis and Damage Repair Lab	ABR 131	Non-Structural Analysis and Damage Repair Lab
CRT 150	Painting and Refinishing	ABR 150	Painting and Refinishing
CRT 151	Painting and Refinishing Lab	ABR 151	Painting and Refinishing Lab
CRT 198	Practicum	ABR 198	Practicum
CRT 199	Cooperative Education	ABR 199	Cooperative Education
	Dropped	ABR 200	Plastics and Adhesives
CRT 230	Structural Analysis and Damage Repair	ABR 230	Structural Analysis and Damage Repair
CRT 231	Structural Analysis and Damage Repair Lab	ABR 231	Structural Analysis and Damage Repair Lab
CRT 250	Mechanical and Electrical Components	ABR 250	Mechanical and Electrical Components
CRT 251	Mechanical and Electrical Components Lab	ABR 251	Mechanical and Electrical Components Lab
CRT 291	Special Projects I	ABR 291	Special Projects I
CRT 293	Special Projects II	ABR 293	Special Projects II
CRT 295	Special Projects III	ABR 295	Special Projects III
CRT 298	Advanced Practicum	ABR 298	Practicum
CRT 299	Advanced Cooperative Education	ABR 299	Cooperative Education

## Computer Aided Drafting & Design: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
CAD 102	Drafting Fundamentals	DFT 102	Drafting Fundamentals
CAD 108	Introduction to Surveying	DFT 108	Introduction to Surveying
CAD 112	Engineering Graphics	DFT 112	Engineering Graphics

CAD 120	Introduction to Architecture	ADFT 130	Introduction to Architecture
CAD 130	Descriptive Geometry	DFT 130	Descriptive Geometry
CAD 201	Parametric Modeling	CAD 201	Advanced 3-D Modeling
CAD 212	Industrial Drafting Processes	DFT 212	Industrial Drafting Processes
CAD 220	Architectural Design	ADFT 240	Architectural Design
CAD 222	Mechanical Design	DFT 222	Mechanical Design
CAD 230	Construction Techniques	ADFT 230	Construction Techniques
CAD 240	Advanced Dimensioning and Measurement	DFT 240	Advanced Dimensioning and Measurement
CAD 252	Commercial Detailing	ADFT 252	Commercial Detailing
CAD 262	Working Drawings	ADFT 262	Working Drawings
CAD 291	Special Problems	DFT 291	Special Problems
CAD 292	Industrial Applications	DFT 292	Industrial Applications
CAD 293	Special Problems	DFT 293	Special Problems
CAD 298	Practicum	DFT 298	Practicum
CAD 299	Cooperative Education	DFT 299	Cooperative Education

## Computerized Manufacturing and Machining: 2012-2013

(Previously listed under Machine Tool Technology)

New Course Number	New Course Name	Old Course Number	Old Course Name
CMM 110	Fundamentals of Machine Tools - A	MTT 110	Fundamentals of Machine Tools - A
CMM 112	Fundamentals of Machine Tools - B	MTT 112	Fundamentals of Machine Tools - B
CMM 114	Fundamentals of Machine Tools	MTT 114	Fundamentals of Machine Tools
CMM 118	Metrology/Control Charts	MTT 118	Metrology/Control Charts
CMM 120	Applied Machining I	MTT 120	Applied Machining I
CMM 122	Applied Machining II	MTT 122	Applied Machining II
CMM 124	Applied Machining	MTT 124	Applied Machining
CMM 130	Manual Programming	MTT 130	Manual Programming
CMM 132	CAD/CAM/CNC	MTT 132	CAD/CAM/CNC

CMM 134	Manual Programming CAD/CAM/CNC	MTT 134	Manual Programming CAD/CAM/CNC
CMM 138	Intro to Programming & CNC Machines	MTT 138	Intro to Programming & CNC Machines
CMM 150	Shop Theory	MTT 150	Shop Theory
CMM 151	Machinery's Handbook and Metallurgy	MTT 151	Machinery's Handbook and Metallurgy
CMM 152	Jigs, Fixtures and Gaging	MTT 152	Jigs, Fixtures and Gaging
CMM 153	Mold Theory	MTT 153	Mold Theory
CMM 154	Die Theory	MTT 154	Die Theory
CMM 155	Jigs, Fixtures and Gaging Lab	MTT 155	Jigs, Fixtures and Gaging Lab
CMM 160	Basic Bench and Machine Processes	MTT 160	Basic Bench and Machine Processes
CMM 168	Special Topics in Computerized Manufacturing & Machining	MTT 168	Special Topics in Machine Tool Technology
CMM 169	Special Topics in Computerized Manufacturing & Machining	MTT 169	Special Topics in Machine Tool Technology
CMM 210	Industrial Machining I	MTT 210	Industrial Machining I
CMM 212	Industrial Machining II	MTT 212	Industrial Machining II
CMM 214	Industrial Machining	MTT 214	Industrial Machining
CMM 218	Advanced Machining Techniques for Manufacturing	MTT 218	Advanced Machining Techniques for Manufacturing
CMM 220	Advanced Industrial Machining I	MTT 220	Advanced Industrial Machining I
CMM 220	Advanced Industrial Machining II	MTT 222	Advanced Industrial Machining II
CMM 224	Advanced Industrial Machining	MTT 224	Advanced Industrial Machining
CMM 230	Conversational Programming	MTT 230	Conversational Programming
CMM 234	CNC Machines & Coding Practices	MTT 234	CNC Machines & Coding Practices
CMM 240	Introduction to 3-D Programming	MTT 240	Introduction to 3-D Programming
CMM 244	Advance Programming/ Setup Practices	MTT 244	Advance Programming/ Setup Practices
CMM 298	Practicum	MTT 298	Practicum

CMM 299	Cooperative Education Program	MTT 299	Cooperative Education Program
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## Cosmetology: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
COS 105	Esthetician I	COSE 110	Esthetician I
	Dropped	COS 122	Cosmetology I
	Dropped	COS 124	Cosmetology II
	Dropped	COS 126	Cosmetology III
COS 135	Individual Requirements I	COS 135	Special Problems I
COS 205	Esthetician II	COSE 210	Esthetician II
	Dropped	COS 228	Cosmetology IV
	Dropped	COS 230	Advanced Cosmetology I
	Dropped	COS 232	Advanced Cosmetology II
COS 235	Individual Requirements II	COS 235	Special Problems II
COS 275	Esthetician III	COSE 270	Esthetician III

## Criminal Justice: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
CRJ 100	Introduction to Criminal Justice	CJ 101	Introduction to Criminal Justice
CRJ 102	Introduction to Corrections	CJ 102	Introduction to Corrections
CRJ 218	Police Supervision	CJ 105	Police Supervision
CRJ 107	Introduction to Firearms	CJ 107	Introduction to Firearms
CRJ 110	Principles of Asset Protection	CJ 110	Principles of Asset Protection
CRJ 201	Introduction to Criminalistics	CJ 201	Introduction to Criminalistics
CRJ 202	Issues and Ethics in Criminal Justice	CJ 202	Issues and Ethics in Criminal Justice
CRJ 203	Community Corrections: Probation and Parole	CJ 203	Community Corrections: Probation and Parole
CRJ 204	Criminal Investigations	CJ 204	Criminal Investigations
CRJ 208	Delinquency and the Juvenile Justice System	CJ 208	Delinquency and the Juvenile Justice System
CRJ 210	Physical Security Technology & Systems	CJ 210	Physical Security Technology & Systems
CRJ 211	Liability and Legal Issues	CJ 211	Liability and Legal Issues



CRJ 215	Introduction to Law Enforcement	CJ 215	Introduction to Law Enforcement
CRJ 216	Criminal Law	CJ 216	Criminal Law
CRJ 217	Criminal Procedures	CJ 217	Criminal Procedures
CRJ 220	Introduction to Computer Forensics for Criminal Justice	CJ 220	Introduction to Computer Forensics for Criminal Justice
CRJ 222	Prison & Jail Administration	CJ 222	Prison & Jail Administration
CRJ 230	Criminal Justice Courtroom Procedures	CJ 230	Criminal Justice Courtroom Procedures
CRJ 231	Legal Aspects of Corrections	CJ 231	Legal Aspects of Corrections
CRJ 240	Introduction to Corporate & Industrial Security	CJ 240	Introduction to Corporate & Industrial Security
CRJ 245	Introduction to Business and Industrial Fraud	CJ 245	Introduction to Business and Industrial Fraud
CRJ 279	Terrorism and Political Violence	CJ 279	Terrorism and Political Violence
CRJ 290	Internship in Criminal Justice	CJ 290	Internship in Criminal Justice
CRJ 299	Selected Topics in Law Enforcement	CJ 299	Selected Topics in Law Enforcement

## Dental Assisting/Dental Hygiene: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
DAH 124	Materials in Dentistry	DAH 224	Materials in Dentistry
	Dropped	DAH 111	Preventive Dentistry

## Dental Hygiene (BCTC): 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
DHP 120	Dental Hygiene I	DH 120	Dental Hygiene I
DHP 121	Oral Biology I	DH 121	Oral Biology I
DHP 130	Dental Hygiene II	DH 130	Dental Hygiene II
DHP 131	Oral Biology II	DH 131	Oral Biology II
DHP 135	Dental Radiology	DH 135	Dental Radiology
DHP 136	Periodontics I	DH 136	Periodontics for the Dental Hygienist I
DHP 220	Dental Hygiene III	DH 220	Dental Hygiene III
DHP 222	Special Needs Patients	DH 222	Special Needs Patients
DHP 224	Dental Materials	DH 224	Dental Materials

DHP 226	Periodontics II	DH 226	Periodontics for the Dental Hygienist II
DHP 229	Local Anesthesia	DH 229	Local Anesthesia
DHP 230	Dental Hygiene IV	DH 230	Dental Hygiene IV
DHP 235	Principles of Practice	DH 235	Principles of Practice
DHP 238	Community Dental Health	DH 238	Community Dental Health
DHP 299	Independent Study Dental Hygiene	DH 299	Independent Study Dental Hygiene

## Diagnostic Medical Sonography: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
DMS 105	Introduction to Cardiology	SONO 105	Introduction to Cardiology
DMS 109	Sonography I	SONO 110	Sonography I
DMS 111	Abdominal Synography	SONO 111	Abdominal Synography
DMS 115	Sonography II	SONO 115	Sonography II
DMS 116	OB/GYN Sonography	SONO 116	OB/GYN Sonography
DMS 117	Vascular Sonography I	SONO 117	Vascular Sonography I
DMS 118	Vascular Sonography II	SONO 118	Vascular Sonography II
DMS 119	Ultrasonic Physics and Instrumentation	SONO 120	Ultrasonic Physics and Instrumentation
DMS 121	Sonography Physics and Instrumentation	SONO 121	Sonography Physics and Instrumentation
DMS 126	Clinical Education I	SONO 125	Clinical Education I
DMS 136	Vascular Clinical Education I	SONO 136	Vascular Clinical Education I
DMS 145	Cardiac Sonography I	SONO 145	Cardiac Sonography I
DMS 199	Online Physics Review	SONO 200	Online Physics Review
DMS 201	Online Abdomen Review	SONO 201	Online Abdomen Review
DMS 202	Online OB/GYN Review	SONO 202	Online OB/GYN Review
	Dropped	SONO 203	Online High Resolution Sonography
DMS 204	Online Vascular Sonography	SONO 204	Online Vascular Sonography
DMS 205	Cardiac Sonography II	SONO 205	Cardiac Sonography II
DMS 206	Online Vascular Sonography III	SONO 206	Online Vascular Sonography III

DMS 215	Cardiac Sonography III	SONO 215	Cardiac Sonography III
DMS 217	Basic Cardiac Ultrasound Sonography	SONO 217	Basic Cardiac Ultrasound Sonography
DMS 230	Clinical Education II	SONO 230	Clinical Education II
DMS 236	Vascular Clinical Education II	SONO 236	Vascular Clinical Education II
DMS 237	Vascular Clinical Education III	SONO 237	Vascular Clinical Education III
DMS 240	Clinical Education III	SONO 240	Clinical Education III
DMS 245	Cardiac Sonography IV	SONO 245	Cardiac Sonography IV
DMS 255	Vascular Technology	SONO 255	Vascular Technology
DMS 260	Vascular Clinical Education	SONO 260	Vascular Clinical Education
DMS 280	Basic Vascular Technology	SONO 280	Basic Vascular Technology

## Digital Game and Simulation Design: 2012-2013

(Previously listed under Digital Game Design)

New Course Number	New Course Name	Old Course Number	Old Course Name
DGD 132	Introduction to 3D Graphics	IT 131	Introduction to Digital 3-D Game Graphics
DGD 232	3D Character Development	IT 232	3-D Digital Game Character Development
DGD 234	3D Animation	IT 231	3-D Digital Game Animation

## Education: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
EDU 110	Orientation to Education	ED 101	Orientation to Education
EDU 120	Child & Adolescent Development	ED 102	Child & Adolescent Development
EDU 130	Introduction to Special Education	ED 103	Introduction to Special Education
EDU 140	Introduction to Behavioral Management	ED 104	Introduction to Behavioral Management
EDU 150	Practical Experiences for the Paraeducator	ED 105	Practical Experiences for the Paraeducator
EDU 201	Introduction to American Education	ED 201	Introduction to American Education

EDU 204	Technology in the Classroom	ED 203	Technology in the Classroom
EDU 240	Elementary & Middle School Literature	ED 240	Elementary & Middle School Literature
EDU 270	Elementary School Literature	ED 270	Elementary School Literature
EDU 280	Education Externship/Co-op	ED 280	Education Externship/Co-op
EDU 299	Selected Topics in Education	ED 299	Selected Topics in Education

## Education: 2013-2014

New Course Number	New Course Name	Old Course Number	Old Course Name
EDM 270	Teaching and Learning in the Middle Grades	MID 270	Teaching and Learning in the Middle Grades

## Emergency Medical Services – Paramedic: 2013-2014

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	PAR 110	Introduction to Paramedic Practice
	Dropped	PAR 120	Paramedic Practice II
	Dropped	PAR 220	Paramedic Practice III
	Dropped	PAR 230	Clinical Practicum I
	Dropped	PAR 2301	Clinical Practicum I-A
	Dropped	PAR 2302	Clinical Practicum I-B
	Dropped	PAR 240	Field Internship I
	Dropped	PAR 2401	Field Internship I-A
	Dropped	PAR 2402	Field Internship I-B
EMS 200	Introduction to Paramedicine - <b>New</b>		
EMS 210	Emergency Pharmacology - <b>New</b>		
EMS 211	Fundamentals Lab - <b>New</b>		
EMS 215	Clinical Experience I - <b>New</b>		
EMS 220	Cardiovascular Emergencies - <b>New</b>		

EMS 221	Cardiac and Trauma Lab - <b>New</b>
EMS 225	Clinical Experience II - <b>New</b>
EMS 230	Traumatic Emergencies - <b>New</b>
EMS 231	Medical Lab - <b>New</b>
EMS 235	Clinical Experience III - <b>New</b>
EMS 240	Medical Emergencies I - <b>New</b>
EMS 250	Medical Emergencies II - <b>New</b>
EMS 260	Special Populations - <b>New</b>
EMS 270	EMS Operations - <b>New</b>
EMS 275	Seminar in Advanced Life Support (ALS) - <b>New</b>
EMS 285	Field Internship & Summation - <b>New</b>

## Energy Systems: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
ESP 101	Introduction to Energy Systems	ES 101	Introduction to Energy Systems
ESP 110	Petroleum Based Fuels	ES 110	Introduction to Petroleum Based Fuels
ESP 120	Power Plant Chemistry	ES 120	Power Plant Chemistry
ESP 130	Electrical Concepts	ES 130	Electrical Concepts
ESP 132	Electrical Machinery and Controls	ES 132	Electrical Machinery and Controls
ESP 211	Power Plant Operations I	ES 211	Power Plant Operations I: Introduction to Power Plant Operations
ESP 212	Power Plant Operations II	ES 212	Power Plant Operations II: Boilers/Fuel/Air Combustion/Emissions

ESP 213	Power Plant Operations III	ES 213	Power Plant Operations III: Water/Steam/Turbines/Generators
ESP 214	Power Plant Operations IV	ES 214	Power Plant Operations IV: Auxiliaries
ESP 220	Power Plant Thermodynamics	ES 220	Power Plant Thermodynamic Applications
ESP 280	Capstone in Energy Systems	ES 280	Capstone in Energy Systems

## Engineering & Electronics Technology (Previously MIT: Engineering Technology): 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
ELT 102	Blueprint Reading	ET 102	Blueprint Reading
ELT 105	Computer Maintenance Essentials	ENGT 105	Computer Maintenance Essentials
ELT 106	Mechanical Engineering Graphics	ET 106	Mechanical Engineering Graphics II
ELT 107	Computer Applications for Technicians	ET 107	Computer Applications for Technicians
ELT 110	Circuits I	ENGT 110	Circuits I
ELT 114	Circuits II	ENGT 114	Circuits II
ELT 118	Computer Numerical Control	ET 118	Manufacturing III, Computer Numerical Control
ELT 120	Digital I	ENGT 120	Digital I
ELT 122	Mechanical Power Transmissions Systems	ET 122	Mechanical Power Transmissions Systems
ELT 124	Mechanical Power Transmission Systems Lab	ET 124	Mechanical Power Transmission Systems Lab
ELT 201	Statics and Strength of Materials	ET 201	Statics and Strength of Materials
ELT 205	Advanced Computer Maintenance	ENGT 205	Advanced Computer Maintenance
ELT 208	Thermodynamic Applications	ET 210	Thermodynamic Applications
ELT 210	Devices I	ENGT 210	Devices I
ELT 214	Devices II	ENGT 214	Devices II
ELT 220	Digital II	ENGT 220	Digital II

ELT 222	Mechanics of Telephony	ENGT 222	Mechanics of Telephony
ELT 224	Basic Telecommunicatic Installation and Maintenance	ENGT 224	Basic Telecommunications Installation and Maintenance
ELT 226	Safety in the Workplace	ENGT 226	Safety in the Workplace
ELT 232	Computer Software Maintenance	ET 232	Computer Software Maintenance
ELT 234	Computer Hardware Maintenance	ET 234	Computer Hardware Maintenance
ELT 240	Communications Electronics	ENGT 250	Communications Electronics
ELT 243	Electric Power Distribution	ET 243	Electric Power Distribution
ELT 244	Electrical Machinery and Controls	ET 244	Electrical Machinery and Controls
ELT 250	Programmable Logic Controllers	ET 250	Programmable Logic Controllers
ELT 256	Microprocessor Fundamentals	ET 256	Microprocessor Fundamentals
ELT 260	Robotic and Industrial Automation	ENGT 260	Robotic and Industrial Automation
ELT 261	Instrumentation and Measurements	ET 261	Instrumentation and Measurements
ELT 262	Measurement and Instrumentation	ET 262	Measurement and Instrumentation
ELT 264	Mechanical Design	ET 264	Mechanical Design
ELT 265	Applied Fluid Power	ET 265	Applied Fluid Power
ELT 290	Selected Topics in Engineering Technology: (Topic)	ET 290	Selected Topics in Engineering Technology: (Topic)
ELT 295	Independent Problems	ET 295	Independent Problems

## Engineering and Electronics Technology: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
ELT 103	Introduction to Engineering	ET 103	Introduction to Engineering

## Foreign Language: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
FRE 101	Elementary French I	FR 101	Elementary French
FRE 102	Elementary French II	FR 102	Elementary French II
FRE 201	Intermediate French I	FR 201	Intermediate French I
FRE 202	Intermediate French II	FR 202	Intermediate French II
GER 101	Elementary German I	GER 101	Basic German
GER 102	Elementary German II	GER 102	Basic German
GER 201	Intermediate German I	GER 201	Intermediate German
GER 202	Intermediate German II	GER 202	Intermediate German
RAE 150	Elementary Chinese I	RAE 150	Beginning Chinese I
RAE 151	Elementary Chinese II	RAE 151	Beginning Chinese II
SED 101	Sign Language I	SED 101	American Sign Language I
SED 102	Sign Language II	SED 102	American Sign Language II
SED 203	Sign Language III	SED 203	American Sign Language III
SED 204	Sign Language IV	SED 204	American Sign Language IV
SPA 201	Intermediate Spanish I	SPA 201	Intermediate Spanish III (Spoken Approach)
SPA 202	Intermediate Spanish II	SPA 202	Intermediate Spanish IV (Spoken Approach)

## General College Studies: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
GEN 100	Introduction to College	GE 100	Introduction to College
GEN 102	Foundations of Learning	GE 101	Strategies for Academic Success
AGR 101	The Economics of Food and Agriculture	GEN 101	The Economics of Food and Agriculture
GEN 103	Principles of Peer Mentoring	GE 103	Principles of Peer Mentoring
GEN 104	Applied Principles of Peer Mentoring	GE 104	Applied Principles of Peer Mentoring



GEN 120	Service Learning	GE 120	Service Learning
GEN 122	The Exemplary Tutor	GE 122	The Exemplary Tutor
GEN 123	The Exemplary Reading Tutor	GE 123	The Exemplary Reading Tutor
GEN 125	Applied Meta-Thinking		
GEN 130	Introduction to Information Resources	GE 130	Introduction to Information Resources
GEN 131	Basic Library Research and Resources	GE 131	Basic Library Research and Resources
GEN 140	Development of Leadership	GE 140	Development of Leadership
GEN 150	Basic Computer Skills	GE 150	Computer Literacy
GEN 175	Career and Life Skills Development		
GEN 225	Lifelong Learning Applications		
GEN 276	Employment and Professional Skills	GEC 276	Employment and Professional Skills

## Global Studies: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
GBS 290	Global Studies Capstone Course	GS 290	Global Studies Capstone Course

## Health Physics: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
HPH 100	Health Physics Fundamentals	HP 100	Health Physics Fundamentals
HPH 101	Introduction to Health Physics I	HP 101	Introduction to Health Physics I
HPH 102	Introduction to Health Physics II	HP 102	Introduction to Health Physics II
HPH 120	Introduction to Radiation Biology	HP 120	Introduction to Radiation Biology
HPH 201	Nuclear Instrumentation and Measurement I	HP 201	Nuclear Instrumentation and Measurement I
HPH 202	Nuclear Instrumentation and Measurement II	HP 202	Nuclear Instrumentation and Measurement II
HPH 246	Environmental Law	ENVR 246	Environmental Law

## Homeland Security/Emergency Management: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
HSM 100	Introduction to Homeland Security	HSEM 100	Introduction to Homeland Security
HSM 110	Introduction to Emergency Management	HSEM 110	Introduction to Emergency Management
HSM 225	Ethical and Legal Issues in Homeland Security	HSEM 225	Ethical and Legal Issues in Homeland Security

## Human Services: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
HMS 101	Human Services Survey	HS 101	Human Services Survey
HMS 102	Values of Human Services in a Contemporary Society	HS 102	Values of Human Services in a Contemporary Society
HMS 103	Theories and Techniques in Human Services	HS 103	Theories and Techniques in Human Services
HMS 104	Group Dynamics for Human Services	HS 104	Group Dynamics for Human Services
HMS 200	Dynamics of Human Behavior	HS 200	Dynamics of Human Behavior
HMS 210	Drugs, Society & Human Behavior	HS 210	Drugs, Society & Human Behavior
HMS 211	Introductions to Addictions	HS 211	Introductions to Addictions
HMS 212	Crisis Intervention	HS 212	Crisis Intervention
HMS 220	Cultural Diversity in Human Services	HS 220	Cultural Diversity in Human Services
HMS 235	Teaching Persons with Mental Retardation	HS 235	Teaching Persons with Mental Retardation
HMS 250	Clinical Practice in Human Services	HS 250	Clinical Practice in Human Services
HMS 265	Working with Disabilities in Human Services	HS 265	Working with Disabilities in Human Services
HMS 299	Special Topics in Human Services: (Topic)	HS 299	Special Topics in Human Services: (Topic)
SWK 124	Introduction to Social Services	SW 124	Introduction to Social Services

SWK 222	Development of Social Welfare	SW 222	Development of Social Welfare
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## Industrial Safety: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
ISX 101	Introduction to Industrial Safety	IS 100	Introduction to Industrial Safety

## Industrial Technology: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
ITE 233	Statistical Process Control	INDT 233	Statistical Process Control
ITE 250	Team Dynamics and Problem Solving	INDT 250	Team Dynamics and Problem Solving

## Logistics and Operations Management: 2013-2014

New Course Number	New Course Name	Old Course Number	Old Course Name
LOM 180	Project Management	IT 180	Project Management

## Masonry: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	MASE 101	Special Problems I
MSY 105	Introductory Masonry	MASE 105	Introductory Masonry
MSY 115	Intermediate Masonry	MASE 115	Intermediate Masonry
MSY 198	Practicum I	MASE 198	Practicum
MSY 199	Cooperative Education I	MASE 199	Cooperative Education
	Dropped	MASE 201	Special Problems II
MSY 205	Advanced Masonry	MASE 205	Advanced Masonry
MSY 215	Masonry Lab	MASE 215	Masonry Lab
MSY 225	Brick Construction	MASE 225	Brick Construction
MSY 235	Special Techniques in Brick Construction	MASE 235	Special Techniques in Brick Construction
MSY 245	Anchors and Reinforcement	MASE 245	Anchors and Reinforcement
MSY 251	Concrete Finishing	MASE 251	Concrete Finishing
MSY 253	Masonry Floors and Steps	MASE 253	Masonry Floors and Steps

MSY 255	Glass Blocks and Tile	MASE 255	Glass Blocks and Tile
MSY 257	Stone	MASE 257	Stone
MSY 275	Fireplace Construction	MASE 275	Fireplace Construction
MSY 291	Masonry Applications	MASE 291	Special Problems III
MSY 298	Practicum II	MASE 298	Practicum
MSY 299	Cooperative Education II	MASE 299	Cooperative Education

## Math: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
	DROPPED	MAT 120	Intermediate Algebra
MAT 190	Mathematics Workshop	MT 190	Mathematics Workshop

## Medical Information Technology: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
MIT 103	Medical Office Terminology	OST 103	Medical Office Terminology
MIT 104	Medical Insurance	OST 104	Introduction to Medical Insurance
MIT 106	Introduction to Medical Transcription	OST 106	Introduction to Medical Transcription
MIT 204	Medical Coding	OST 204	Medical Coding
MIT 205	Advanced Medical Coding	OST 205	Advanced Medical Coding
MIT 206	Medical Transcription	OST 206	Medical Transcription
MIT 208	Inpatient Coding	OST 208	Introduction to Hospital Coding
MIT 212	Medications	OST 212	Medications
MIT 217	Medical Office Procedures	OST 217	Medical Office Procedures
MIT 227	Medical Office Software	OST 227	Medical Office Software
MIT 228	Electronic Medical Records	OST 228	Electronic Medical Records
MIT 230	Medical Information Management	OST 230	Medical Records and Data Management

## Medical Laboratory Technology: 2013-2014

New Course Number	New Course Name	Old Course Number	Old Course Name
MLT 101	Introduction to Clinical Laboratory	CLT 101	Introduction to Clinical Laboratory
MLT 112	Urinalysis	CLT 111	Urinalysis
MLT 115	Serology	CLT 125	Serology
MLT 119	Applied Laboratory	CLT 130	Applied Laboratory
MLT 1191	Applied Laboratory Part 1	CLT 1301	Applied Laboratory Part 1
MLT 1192	Applied Laboratory Part 2	CLT 1302	Applied Laboratory Part 2
MLT 205	Clinical Microbiology I	CLT 205	Clinical Microbiology I
MLT 206	Clinical Microbiology II	CLT 206	Clinical Microbiology II
MLT 207	Introduction to Clinical Diagnostic Microbiology	CLT 207	Introduction to Clinical Diagnostic Microbiology
MLT 208	Clinical Diagnostic Microbiology I	CLT 208	Clinical Diagnostic Microbiology I
MLT 209	Clinical Diagnostic Microbiology II	CLT 209	Clinical Diagnostic Microbiology II
MLT 215	Hematology I	CLT 215	Hematology I
MLT 216	Hematology II	CLT 216	Hematology II
MLT 217	Fundamentals of Hematology	CLT 217	Fundamentals of Hematology
MLT 218	Clinical Hematology	CLT 218	Clinical Hematology
MLT 225	Immunohematology I	CLT 225	Immunohematology I
MLT 226	Immunohematology II	CLT 226	Immunohematology II
MLT 227	Immunohematology	CLT 227	Immunohematology
MLT 233	Clinical Chemistry I	CLT 235	Clinical Chemistry I
MLT 234	Clinical Chemistry II	CLT 236	Clinical Chemistry II
MLT 247	Introduction to Clinical Chemistry	CLT 237	Introduction to Clinical Chemistry
MLT 248	Advanced Clinical Chemistry	CLT 238	Advanced Clinical Chemistry
MLT 275	Clinical Experience	CLT 275	Clinical Experience
MLT 278	Practicum I	CLT 280	Practicum I
MLT 2781	Practicum I Part I	CLT 2801	Practicum I Part I
MLT 2782	Practicum I Part II	CLT 2802	Practicum I Part II

MLT 279	Practicum II	CLT 290	Practicum II
MLT 2791	Practicum II Part I	CLT 2901	Practicum II Part I
MLT 2792	Practicum II Part II	CLT 2902	Practicum II Part II

## Mining Technology: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	ET 100	Introduction to Surface and Underground Coal Mining
MNG 123	Mining Electricity I	ET 123	Mining Electricity I
MNG 125	Mining Electricity I Lab	ET 125	Mining Electricity I Lab
MNG 150	Mining Laws	ET 150	Mining Laws
	Dropped	ET 154	Spoil Management
	Dropped	ET 155	Elements of Underground and Surface Mining
	Dropped	ET 156	Elements of Underground and Surface Mining Lab I
	Dropped	ET 157	Elements of Underground and Surface Mining Lab II
MNG 190	Mine Emergency Technician	ET 190	Mine Emergency Technician
	Dropped	ET 271	Mining Mechanics and Hydraulics
MNG 274	Mine Safety	ET 274	Mine Safety
MNG 275	Mine Management	ET 275	Mine Management
MNG 286	Roof Control and Ventilation	ET 286	Roof Control and Ventilation

## Music: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	MU 101	Folk and Traditional Music of the Western Continents
	Dropped	MUC 171	Brass Ensemble
	Dropped	MUC 174	University Chorale
MUS 100	Introduction to Music	MUS 100	Introduction to Music
MUS 120	Music Technology I	MU 120	Music Technology I

MUS 121	Music Technology II	MUS 121	Music Technology II
MUS 150	Class Instruction in Piano I	MUS 150	Class Instruction in Piano
MUS 151	Class Instruction in Piano II	MUS 151	Class Instruction in Piano
MUS 152	Class Instruction in Piano III	MUS 152	Class Instruction in Piano
MUS 153	Class Instruction in Piano IV	MUS 153	Class Instruction in Piano
MUS 155	Voice Class for Non-Music Majors	MUS 155	Voice Class for Non-Music Majors
	Dropped	MUS 170	Music Theory, Aural
	Dropped	MUS 171	Music Theory, Written
	Dropped	MUS 172	Music Theory, Aural
	Dropped	MUS 173	Music Theory, Written
MUS 174	Theory for Non Music Majors	MUS 174	Theory for Non Music Majors
MUS 192	University Chorus	MUS 174 & MUS 192	University Chorale and University Singers
MUS 206	American Music History	MUS 206	American Music History
	Dropped	MUS 220	Symphonic Music
MUS 222	History and Sociology of Rock Music	MUS 222	History and Sociology of Rock Music
MUS 260	Teaching Music for the Elementary Grades I	MUS 260	Teaching Music for the Elementary Grades I
MUS 261	Teaching Music for the Elementary Grades II	MUS 261	Teaching Music for the Elementary Grades II

## Nuclear Medicine & Molecular Imaging: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
NMI 140	Clinical Procedures I	NMMI 140	Clinical Procedures I
NMI 141	Physics and Instrumentation I	NMMI 141	Physics and Instrumentation I
NMI 142	Radiation Biology and Protection	NMMI 142	Radiation Biology and Protection
NMI 150	Clinic I	NMMI 150	Clinic I
NMI 160	Clinical Procedures II	NMMI 160	Clinical Procedures II

NMI 161	Physics and Instrumentation II	NMMI 161	Physics and Instrumentation II
NMI 170	Clinic II	NMMI 170	Clinic II
NMI 220	Clinic III	NMMI 220	Clinic III
NMI 230	Radiopharmacy	NMMI 230	Radiopharmacy
NMI 240	Clinical Procedures III	NMMI 240	Clinical Procedures III
NMI 250	Clinical Procedures IV	NMMI 250	Clinical Procedures IV
NMI 260	Clinic IV	NMMI 260	Clinic IV
NMI 270	Clinic V	NMMI 270	Clinic V

## Nursing (BCTC): 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
NRN 115	Nursing I	NR 115	Nursing I
NRN 125	Nursing II	NR 125	Nursing II
NRN 235	Nursing III	NR 235	Nursing III
NRN 245	Nursing IV	NR 245	Nursing IV
NRN 255	Nursing V	NR 255	Nursing V
NRN 265	Nursing VI	NR 265	Nursing VI

## Philosophy: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
PHI 100	Introduction to Philosophy: Knowledge and Reality	PHI 100	Introduction to Philosophy: Knowledge and Reality
PHI 110	Medical Ethics	PHL 110	Bioethics: Moral Issues in Health Care
PHI 130	Ethics	PHI 130	Introduction to Philosophy: Morality and Society
PHI 150	Business Ethics	PHL 120	Business Ethics
PHI 260	History of Philosophy I: From Greek Beginnings to the Middle Ages	PHI 260	History of Philosophy I: From Greek Beginnings to the Middle Ages
PHI 270	History of Philosophy II: From the Renaissance to the Present Era	PHI 270	History of Philosophy II: From the Renaissance to the Present Era

## Physics: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
PHY 151	Introductory Physics I	PHY 151	Introduction to Physics
PHY 152	Introductory Physics II	PHY 152	Introduction to Physics



PHY 160	Physics and Astronomy for Elementary Teachers	PHY 160	Physics and Astronomy for Elementary Teachers
PHY 161	Introductory Physics I Laboratory	PH 161	Introductory Physics Laboratory I
PHY 162	Introductory Physics II Laboratory	PH 162	Introductory Physics Laboratory II
PHY 171	Applied Physics	PH 171	Applied Physics
PHY 172	Physics for Health Sciences	PH 172	Physics for Health Sciences
PHY 201	College Physics I	PHY 201	General Physics
PHY 202	College Physics I Laboratory	PHY 210	Special Laboratory for General Physics PHY 201
	Deactivated	PHY 211	General Physics
PHY 203	College Physics II	PHY 203	General Physics
PHY 204	College Physics II Laboratory	PHY 212	Special Laboratory for General Physics PHY 203
	Deactivated	PHY 213	General Physics
PHY 231	General University Physics I	PHY 231	General University Physics
PHY 232	General University Physics II	PHY 232	General University Physics
PHY 241	General University Physics I Laboratory	PHY 241	General University Physics Laboratory
PHY 242	General University Physics II Laboratory	PHY 242	General University Physics Laboratory

## Political Science: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
POL 101	American Government	PS 101	American Government
POL 210	Introduction to European Politics: East and West	PS 210	Introduction to European Politics: East and West
POL 212	Culture and Politics in Developing Nations	PS 212	Culture and Politics in the Third World
POL 235	World Politics	PS 235	World Politics
POL 255	State Government	PS 155	State Government

POL 280	Issues in Public Policy	PS 280	Issues in Public Policy
POL 299	Special Topics in Political Science	PS 299	Special Topics in Political Science

**Note:** POL 271 Introduction to Political Behavior (3 credit hours) removed from general education status.

## Professional Studio Artist: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
PSJ 110	Jewelry/Metals I	PSAJ 110	Jewelry/Metals I
PSJ 115	Jewelry/Metals II	PSAJ 115	Jewelry/Metals II
PSJ 116	Ancient Techniques	PSAJ 116	Ancient Techniques
PSJ 117	Metal Casting/Finishing Techniques	PSAJ 117	Metal Casting/Finishing Techniques
PSJ 210	Jewelry/Metals III	PSAJ 210	Jewelry/Metals III
PSJ 211	Hollowware and Metal Forming	PSAJ 211	Hollowware and Metal Forming
PSJ 212	Metallurgy of Precious Metals	PSAJ 212	Metallurgy of Precious Metals
PSJ 215	Jewelry/Metals IV	PSAJ 215	Jewelry/Metals IV
PSJ 216	Stone Settings	PSAJ 216	Stone Settings
PSJ 220	Jewelry/Metals Product Development	PSAJ 220	Jewelry/Metals Product Development
PSJ 230	Jewelry/Metals V	PSAJ 230	Jewelry/Metals V
PSM 101	Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin	PSAM 101	Bluegrass & Traditional Music History I: Geographic Influence & Instrumental Origin
PSM 105	Recording I	PSAM 105	Recording I
PSM 108	Songwriting I	PSAM 108	Songwriting I
PSM 110	Individual Stringed Instrument Instruction	PSAM 110	Individual Stringed Instrument Instruction
PSM 111	Guitar I	PSAM 111	Guitar I
PSM 115	Bluegrass & Traditional Band/Ensemble	PSAM 115	Bluegrass & Traditional Band/Ensemble
PSM 116	Bluegrass & Traditional Harmony/Part Singing	PSAM 116	Bluegrass & Traditional Harmony/Part Singing

PSM 121	Bluegrass & Traditional Music History II: Evolution of Old Time, Folk and Early Bluegrass	PSAM 121	Bluegrass & Traditional Music History II: Evolution of Old Time, Folk and Early Bluegrass
PSM 125	Recording II	PSAM 125	Recording II
PSM 128	Songwriting II	PSAM 128	Songwriting II
PSM 231	Bluegrass & Traditional Music History III: Early Stringband & Country Music	PSAM 231	Bluegrass & Traditional Music History III: Early Stringband & Country Music
PSM 235	Recording III	PSAM 235	Recording III
PSM 238	Songwriting III	PSAM 238	Songwriting III
PSM 241	Bluegrass & Traditional Music History IV: The Masters & Their Music	PSAM 241	Bluegrass & Traditional Music History IV: The Masters & Their Music
PSM 245	Recording IV	PSAM 245	Recording IV
PSM 248	Songwriting IV	PSAM 248	Songwriting IV
PSM 250	Field Experience/ Production/ Business	PSAM 250	Field Experience/ Production/ Business
PSW 111	Introduction to Furniture Making	PSAW 111	Introduction to Furniture Making
PSW 115	Furniture Making II	PSAW 115	Furniture Making II
PSW 116	Wood Finishing	PSAW 116	Wood Finishing
PSW 117	Wood Turning for Furniture	PSAW 117	Wood Turning for Furniture
PSW 210	Furniture Making III	PSAW 210	Furniture Making III
PSW 211	Wood Bending and Veneering	PSAW 211	Wood Bending and Veneering
PSW 212	Chair Design	PSAW 212	Chair Design
PSW 215	Furniture Making IV	PSAW 215	Furniture Making IV
PSW 220	Furniture/ Wood Product Development	PSAW 220	Furniture/ Wood Product Development
PSW 23	Furniture Making V	PSAW 23	Furniture Making V

## Professional Studio Artist: 2013-2014

New Course Number	New Course Name	Old Course Number	Old Course Name
PSM 107	Songwriting I	PSM 108	Songwriting I
PSM 112	Individual Stringed Instrument Instruction	PSM 110	Individual Stringed Instrument Instruction
PSM 113	Guitar I	PSM 111	Guitar I
PSM 114	Bluegrass & Traditional Band/ Ensemble	PSM 115	Bluegrass & Traditional Band/ Ensemble

PSM 117	Songwriting II	PSM 128	Songwriting II
PSM 118	Bluegrass & Traditional Harmony/Part Singing	PSM 116	Bluegrass & Traditional Harmony/Part Singing
PSM 217	Songwriting III	PSM 238	Songwriting III
PSM 227	Songwriting IV	PSM 248	Songwriting IV

## Psychology: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
	Dropped	PSY 100	Introduction to Psychology
PSY 110	General Psychology	PY 110	General Psychology
PSY 180	Human Relations	PY 180	Human Relations
PSY 185	Human Potential	PY 185	Human Potential
PSY 230	Psychosocial Aspects of Death and Dying	PY 230	Psychosocial Aspects of Death and Dying
PSY 297	Psychology of Aging	PY 297	Psychology of Aging

## Psychology: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
PSY 298	Essentials of Abnormal Psychology	PY 298	Essentials of Abnormal Psychology

## Psychology: 2013-2014

New Course Number	New Course Name	Old Course Number	Old Course Name
PSY 181	Leadership Development	PY 181	Leadership Development
PSY 188	Directed Undergraduate Readings in Psychology	PY 188	Directed Undergraduate Readings in Psychology
PSY 189	Directed Undergraduate Research in Psychology	PY 189	Directed Undergraduate Research in Psychology
PSY 212	Applications of Statistics in Psychology	PSY 216	Applications of Statistics in Psychology
PSY 213	Research Methods	PSY 215	Experimental Psychology
PSY 299	Special Introductory Topics in Psychology	PY 299	Special Introductory Topics in Psychology

## Radiography: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
IMG 100	Radiography I	RADI 100	Radiography I
IMG 101	Clinical I	RADI 101	Clinical I
IMG 104	Introduction to Radiography	RADI 104	Introduction to Radiography
IMG 106	Patient Care in Radiography	RADI 106	Patient Care in Radiography
IMG 108	Radiographic Procedures I	RADI 108	Radiographic Procedures I
IMG 109	Clinical Practice I	RADI 109	Clinical Practice I
IMG 110	Radiography II	RADI 110	Radiography II
IMG 111	Clinical II	RADI 111	Clinical II
IMG 114	Image Production and Acquisition	RADI 114	Image Production and Acquisition
IMG 116	Advanced Patient Care in Radiography	RADI 116	Advanced Patient Care in Radiography
IMG 118	Radiographic Procedures II	RADI 118	Radiographic Procedures II
IMG 119	Clinical Practice II	RADI 119	Clinical Practice II
IMG 201	Clinical III	RADI 201	Clinical III
IMG 209	Clinical Practice III	RADI 209	Clinical Practice III
IMG 210	Radiography IV	RADI 210	Radiography IV
IMG 211	Clinical IV	RADI 211	Clinical IV
IMG 214	Imaging Equipment	RADI 214	Imaging Equipment
IMG 216	Basic Computed Tomography	RADI 216	Basic Computed Tomography
IMG 219	Clinical Practice IV	RADI 219	Clinical Practice IV
IMG 220	Radiography V	RADI 220	Radiography V
IMG 221	Clinical V	RADI 221	Clinical V
IMG 224	Radiation Protection and Biology	RADI 224	Radiation Protection and Biology
IMG 226	Radiographic Pathology	RADI 226	Radiographic Pathology
IMG 228	Radiography Seminar	RADI 228	Radiography Seminar
IMG 229	Clinical Practice V	RADI 229	Clinical Practice V
IMG 230	Sectional Anatomy for Advanced Medical Imaging	RADI 230	Sectional Anatomy for Advanced Medical Imaging
IMG 240	Pathology for Advanced Medical Imaging Modalities	RADI 240	Pathology for Advanced Medical Imaging Modalities

IMG 250	Computed Tomography Physics and Instrumentation	RADI 250	Computed Tomography Physics and Instrumentation
IMG 255	Magnetic Resonance Physics and Instrumentation	RADI 255	Magnetic Resonance Physics and Instrumentation
IMG 260	Computed Tomography Imaging Procedures	RADI 260	Computed Tomography Imaging Procedures
IMG 265	Magnetic Resonance Imaging Technology	RADI 265	Magnetic Resonance Imaging Technology

## Reading: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
RDG 185	College Reading	CMS 185	College Reading

## Real Estate: 2011-2012

New Course Number	New Course Name	Old Course Number	Old Course Name
REA 100	Real Estate Principles I	RE 100	Real Estate Principles I
REA 120	Real Estate Marketing	RE 120	Real Estate Marketing
REA 121	Appraising	RE 121	Appraising
REA 122	Construction and Blueprints	RE 122	Construction and Blueprints
REA 200	Real Estate Principles II	RE 200	Real Estate Principles II
REA 201	Property Management	RE 201	Property Management
REA 202	Real Estate Investments I	RE 202	Real Estate Investments I
REA 203	Commercial and Industrial Property	RE 203	Commercial and Industrial Property
REA 204	Land Planning and Development	RE 204	Land Planning and Development
REA 205	Farm Brokerage	RE 205	Farm Brokerage
REA 212	Real Estate Investments II	RE 212	Real Estate Investments II
REA 220	Real Estate Brokerage Management	RE 220	Real Estate Brokerage Management
REA 221	Basic Income Approach to Property Validation	RE 221	Basic Income Approach to Property Validation
REA 222	Uniform Standards of Professional Appraisal	RE 222	Uniform Standards of Professional Appraisal

REA 225	Real Estate Finance	RE 225	Real Estate Finance
REA 230	Real Estate Law	RE 230	Real Estate Law
REA 299	Selected Topics in Real Estate	RE 299	Selected Topics in Real Estate

## Religion: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
REL 101	Introduction to Religion	RS 101	Introduction to Religion Studies
REL 102	Philosophy of Religion	RS 102	Philosophy of Religion
REL 120	Introduction to the Old Testament	RS 120	Introduction to the Old Testament
REL 121	Introduction to the New Testament	RS 121	Introduction to the New Testament
REL 130 <sup>1</sup>	Introduction to Comparative Religion	RS 130	Introduction to Comparative Religion

<sup>1</sup> Cross-listed with ANT 130 Introduction to Comparative Religion (3 credit hours).

## Theatre: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
THA 101	Introduction to Theatre: Principles and Practice	TA 101	Introduction to Theatre: Principles and Practice
THA 126	Acting I: Fundamentals of Acting	TA 126	Acting I: Fundamentals of Acting
THA 127	Acting Techniques	TA 127	Acting Techniques
THA 150	Fundamentals of Production	TA 150	Fundamentals of Production
THA 190	Production Practicum	TA 190	Production Practicum
THA 191	Performance Practicum	TA 191	Performance Practicum
THA 196	Summer Theatre Workshop	TA 196	Summer Theatre Workshop
THA 200	Introduction to Dramatic Literature	TA 200	Introduction to Dramatic Literature
THA 203	Acting for the Camera	TA 203	Acting for the Camera
THA 226	Acting II: Scene Study (Realism)	TA 226	Acting II: Scene Study (Realism)
THA 227	Acting III: Scene Study (Styles)	TA 227	Acting III: Scene Study (Styles)

THA 260	Stagecraft	TA 260	Stagecraft
THA 283	American Theatre	TA 283	American Theatre

## Transitional Mathematics: 2012-2013

New Course Number	New Course Name	Old Course Number	Old Course Name
MAT 085	Intermediate Algebra		New Course

## Women's and Gender Studies: 2010-2011

New Course Number	New Course Name	Old Course Number	Old Course Name
WGS 200	Introduction to Women's and Gender Studies in the Social Sciences	WS 200	Introduction to Women's Studies in the Social Sciences
WGS 201	Introduction to Women's and Gender Studies in the Arts and Humanities	WS 201	Introduction to Women's Studies in the Arts and Humanities



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300 North Main Street • Versailles, KY 40383  
Toll-free, 1-877-KCTCS-4U (877-528-2748) • 859-256-3100  
[kctcs.edu](http://kctcs.edu)

**Dr. Paul Czarapata**  
President

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