Course Title

ENG 101 (3)
Course ID: 000467

Writing I
A course in writing emphasizing argument. Instruction and practice in reading critically, thinking logically, responding to texts, developing research skills, writing substantial essays through systematic revision, addressing specific audiences, and expressing ideas in standard and correct English. Includes grammar and mechanics review. NOTES: (a) credit not available by special examination; (b) ENG 101 and ENG 102 may not be taken concurrently.

Components: Lecture
Attributes: WC - Written Communication

Course Description
summarizes course content. May include information on course components, pre-requisites/co-requisites, and other course stipulations.

Attributes: Indicates course attribute and general education tag of the course, if applicable.

Course prefix/number arranged alphabetically. The course number will appear as ENG 101 on transcripts, student schedules and web-based documents.

Course Credit.
Variable credit is shown as (1-3).

Unique course identification

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., BAS 1601 is the first module of BAS 160. 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 is a pre-requisite for ACC 202)

• Co-requisite – course which must be taken at the same time as another course
  — (example: ACR 101 is a co-requisite for ACR 100)
ACH 110(1) Course ID:004680
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).
Components: Lecture Attributes: Technical

ACH 120(3) Course ID:004681
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).
Components: Lecture Attributes: Technical

ACH 150(3) Course ID:004682
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 (15 contact hours).
Pre-requisite: ACH 100 or consent of instructor.
Components: Laboratory, Lecture Attributes: Technical

ACH 160(3) Course ID:004683
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).
Components: Lecture Attributes: Technical

ACH 161(3) Course ID:004684
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).
Components: Lecture Attributes: Technical

ACH 170(3) Course ID:004685
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).
Components: Lecture Attributes: Technical

ACH 175(3) Course ID:004686
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).
Components: Lecture Attributes: Technical

ACH 180(1 - 3) Course ID:005463
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lecture: 1-3 credits (15-45 contact hours).
Components: Lecture Attributes: Technical

ACH 194(3) Course ID:004687
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).
Components: Laboratory, Lecture Attributes: Technical

ACH 195(3) Course ID:004656
Computer Aided Drafting I
Computer hardware and software are used in preparing architectural documents. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).
Components: Laboratory, Lecture Attributes: Technical

ACH 198(1 - 3) Course ID:015986
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. Pre-requisite: Completion of a minimum of 12 hours in Architectural Technology (ACH) courses with a minimum GPA of 2.0; Practicum: 1 - 3 credits (40-120 contact hours).
Components: Practicum Attributes: Technical

ACH 200(3) Course ID:004688
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.
Components: Laboratory, Lecture Attributes: Technical

ACH 225(3) Course ID:004689
Structures
Students study structural materials and systems including the design of simple structural components. Pre-requisite: ACH 175 and MAH 125, or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

ACH 250(3) Course ID:004690
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.
Components: Laboratory, Lecture Attributes: Technical

ACH 260(3) Course ID:004691
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.
Components: Lecture Attributes: Technical

ACH 294(3) Course ID:004687
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).
Components: Laboratory, Lecture Attributes: Technical
ACH 275(3) Course ID:004692
Mechanical and Electrical Systems
Students engage in a qualitative and quantitative study of environmental control systems used in buildings. Pre-requisite: ACH 175 and MAT 125, or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACH 280(2) Course ID:016138
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. Pre-requisite: ACH 195, or consent of instructor. Lecture/Lab: 2 credits (45 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

ACH 285(3) Course ID:005464
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. Pre-requisite: ACH 185 or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture

ACH 290(3) Course ID:004694
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. Pre-requisite: ACH 150 and ACH 160, or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACH 291(3) Course ID:004695
Construction Management
Students examine the principles and current practices of construction management with emphasis on project organization, scheduling and cost control. Pre-requisite: ACH 150, ACH 160 and ACH 161, or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACH 292(3) Course ID:004696
Building Codes II
This course will be continuation of ACH 290. Building Codes I, with a more in-depth study of current building codes. Pre-requisite: ACH 290 or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACH 293(3) Course ID:004697
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. Pre-requisite: ACH 100 or consent of instructor. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ACH 294(3) Course ID:004698
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. Pre-requisite: ACH 150, ACH 160, ACH 161, or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACH 295(3) Course ID:004693
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. Pre-requisite: ACH 195 or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACH 297(3) Course ID:004699
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. Pre-requisite: ACH 150 and MAT 125; or consent of instructor. Lecture: 2.5 credits (37.5 contact hours); Laboratory: 0.5 credits (7.5 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ACR 100(3) Course ID:000949
Refrigeration Fundamentals
Introduces refrigeration piping and fundamentals of refrigeration including environmental issues associated with HVAC. Co-requisite: ACR 101. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACR 101(2) Course ID:000950
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. Co-requisite: ACR 100. Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

ACR 102(3) Course ID:000951
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. Co-requisite: ACR 103. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACR 103(2) Course ID:000952
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. Co-requisite: ACR 102. Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

ACR 200(3) Course ID:000960
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. Pre-requisite: (ACR 100 and ACR 101) with a grade of C or greater. Co-requisite: ACR 201. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACR 201(2) Course ID:000961
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. Pre-requisite: (ACR 100 and ACR 101) with a grade of C or greater. Co-requisite: ACR 200. Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

ACR 206(5) Course ID:007376
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. Pre-requisite: ACR 102 and ACR 103. Lecture/Lab: 5.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical

ACR 111(3) Course ID:000953
Sheet Metal Fabrication
The student will learn to make patterns and lay out and construct common sheet metal duct fittings. Co-requisite: ACR 113. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACR 113(2) Course ID:000954
Sheet Metal Fabrication Lab
Provides lab time for students to lay out, cut, construct, and install common sheet metal duct fittings. Co-requisite: ACR 112. Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

ACR 130(3) Course ID:000955
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. Pre-requisite: ACR 102 with a grade of C or greater. Co-requisite: ACR 131. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ACR 131(2) Course ID:000956
Electrical Components Lab
Permits practice using different types of line voltages, reading wiring diagrams, and using solid state devices. Emphasizes safety. Pre-requisite: ACR 102 with a grade of C or greater. Co-requisite: ACR 130. Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

ACR 170(3) Course ID:000957
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).
Components: Lecture
Attributes: Technical
ACR 207(5)  
Course ID: 007377  
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. Pre-requisite: (ACR 100 and ACR 101 and ACR 102 and ACR 103) or Consent of the Instructor. Lecture/Lab: 5.0 credits (105 contact hours).

Components: Integrated Laboratory, Integrated Lecture  
Attributes: Technical

ACR 208(4)  
Course ID: 007378  
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. Pre-requisite: ACR 100 and ACR 102 and ACR 103. Lecture/Lab: 4.0 credits (75 contact hours).

Components: Lecture  
Attributes: Technical

ACR 209(4)  
Course ID: 007379  
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, psychrometrics 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).

Components: Lecture  
Attributes: Technical

ACR 210(3)  
Course ID: 000962  
Ice Machines  
Introduces operation, checking, adjusting and troubleshooting commercial ice makers. Covers adjusting, checking, cleaning and troubleshooting commercial ice machines. Pre-requisite: (ACR 100 and ACR 102) with a grade of C or greater. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

ACR 250(3)  
Course ID: 000963  
Cooling and Dehumidification  
Explains working characteristics of air conditioning units with air and water cooled condensers. Covers line, low voltage and pneumatic controls. Pre-requisite: (ACR 100 & ACR 101) with a grade of C or greater. Co-requisite: ACR 251. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

ACR 251(2)  
Course ID: 000964  
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. Pre-requisite: (ACR 100 & ACR 101) with a grade of C or greater. Co-requisite: ACR 250. Laboratory: 2 credits (60 contact hours).

Components: Laboratory  
Attributes: Technical

ACR 260(3)  
Course ID: 000965  
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. 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. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

ACR 262(2)  
Course ID: 016230  
Heating and Humidification Lab  
Provides lab time for application of troubleshooting, checking, adjusting, and installing heating units currently in use. 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. Laboratory 2.0 credits (60 contact hours).

Components: Laboratory  
Attributes: Technical

ACR 270(3)  
Course ID: 000967  
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. Pre-requisite: [(ACR 100 and ACR 102) with a grade of C or greater] or Permission of Instructor. Co-requisite: ACR 271. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

ACR 271(2)  
Course ID: 000968  
Heat Pump Application Lab  
Provides for application of troubleshooting, checking, adjusting, and installing reverse cycle units. Pre-requisite: [(ACR 100 and ACR 102) with a grade of C or greater] or Permission of Instructor. Co-requisite: ACR 271. Laboratory: 2 credits (60 contact hours).

Components: Laboratory  
Attributes: Technical

ACR 290(3)  
Course ID: 000969  
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).

Components: Lecture  
Attributes: Technical

ACR 291(1)  
Course ID: 000970  
Instructor Consent Required  
Special Problems I  
A course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 1 credit (45 contact hours).

Components: Laboratory  
Attributes: Technical

ACR 293(2)  
Course ID: 000971  
Instructor Consent Required  
Special Problems II  
A course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 2 credits (90 contact hours).

Components: Laboratory  
Attributes: Technical

ACR 295(3)  
Course ID: 000972  
Instructor Consent Required  
Special Problems III  
A course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 3 credits (135 contact hours).

Components: Laboratory  
Attributes: Technical

ACR 298(2)  
Course ID: 000973  
Instructor Consent Required  
Practicum  
Practicum provides supervised on-the-job work experience related to the student’s educational objectives. Students participating in the Practicum do not receive compensation. Pre-requisite: Permission of the Instructor. Practicum: 2 credits (150 contact hours).

Components: Practicum  
Attributes: Technical

ACR 299(2)  
Course ID: 000974  
Instructor Consent Required  
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. Pre-requisite: Permission of the Instructor. Co-op: 2 credits (150 contact hours).

Components: Co-Op  
Attributes: Technical

ACT 101(3)  
Course ID: 000004  
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).

Components: Lecture  
Attributes: Technical

ACT 102(3)  
Course ID: 000005  
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).

Components: Lecture  
Attributes: Technical

ACT 177(3)  
Course ID: 005238  
Entrepreneurial Accounting  
Includes issues and concerns that are vital to small and medium-size businesses. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Course Also Offered in Modules, Technical

ACT 196(3)  
Course ID: 000007  
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).

Components: Lecture  
Attributes: Course Also Offered in Modules, Technical

ACT 277(3)  
Course ID: 000008  
Managerial Accounting Topics  
The study of the uses of accounting information in managerial planning and control of organizations. Pre-requisite: ACC 202. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

ACT 279(3)  
Course ID: 000010  
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. Pre-requisite: ACC 201 or ACT 101 and ACT 102 or concurrent enrollment in ACT 102. Digital literacy 3.0 hours. Lecture: 3.0 credits (45 contact hours).

Components: Lecture  
Attributes: Course Also Offered in Modules, Technical

ACT 281(3)  
Course ID: 000013  
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.

Components: Lecture  
Attributes: Technical

ACT 286(3)  
Course ID: 000014  
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. Pre-requisite: ACC 201 or ACT 101 and ACT 102. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: Technical
ACT 1771(0.6) Course ID:005239
Rationale for a Well Designed Accounting System
Developing a well designed accounting system for the entrepreneur. Lecture: 0.6 credits (9 contact hours).
Components: Lecture

ACT 1772(0.6) Course ID:005240
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: Lecture

ACT 1773(0.6) Course ID:005241
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: Lecture

ACT 1774(0.6) Course ID:005242
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: Lecture

ACT 1775(0.6) Course ID:005243
Introduction to Computer Accounting Software to Generate Financial Statements
Computer accounting software to generate financial statements. Lecture: 0.6 credits (9 contact hours). Pre-requisite: ACT 1774 or consent of the instructor.
Components: Lecture

ACT 1961(0.5) Course ID:006117
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: Lecture

ACT 1962(0.5) Course ID:006118
Payroll Taxes
Covers federal and state tax withholding and employer-side payroll expenses. Pre-requisite: ACT 1961. Lecture: 0.5 credit (7.5 contact hours).
Components: Lecture

ACT 1963(0.5) Course ID:006119
Accounting for Payroll
Covers federal and state unemployment laws and accounting for payroll. Pre-requisite: ACT 1961. Lecture: 0.5 credit (7.5 contact hours).
Components: Lecture

ACT 1964(1) Course ID:006120
Manual Payroll
Requires the student to complete a Quarterly Payroll Simulation. Pre-requisite: ACT 1962 & 1963. Lecture: 1 credit (15 contact hours).
Components: Lecture

ACT 1965(0.5) Course ID:006121
Computerized Payroll
Requires the student to complete a Computerized Payroll Simulation. Pre-requisite: ACT 1962 & 1963. Lecture: 0.5 credit (7.5 contact hours).
Components: Lecture

ACT 2791(1) Course ID:015822
Computer Accounting Basics
Presents accounting concepts and principles for a merchant using computerized accounting software. Pre-requisite: ACC 201 or ACT 101 and ACT 102 or concurrent enrollment in ACT 102. Digital literacy 3.0 hours. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

ACT 2792(1) Course ID:015823
Computer Accounting Procedures
Presents computerized accounting concepts and principles for businesses including service providers. Pre-requisite: ACT 2791. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

ACT 2793(1) Course ID:015824
Advanced Features and Controls
Presents accounting concepts and principles for new businesses, including merchandisers, and covers internal controls. Pre-requisite: ACT 2792. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

ADX Automotive Technology

ADX 120(3) Course ID:000983
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. Co-requisite: ADX 121. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ADX 121(2) Course ID:000984
Basic Automotive Electrical 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. Co-requisite: ADX 120. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

ADX 150(3) Course ID:000985
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).
Components: Lecture
Attributes: Technical

ADX 151(2) Course ID:000986
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. Co-requisite: ADX 150. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

ADX 170(3) Course ID:000987
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. Co-requisite: ADX 171. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ADX 171(1) Course ID:000988
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. Co-requisite: ADX 170. Lab: 1.0 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

ADX 260(3) Course ID:000989
Electrical Systems
Focuses on the theory and principles relating to automotive electrical/electronic components. Co-requisite: ADX 261. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ADX 261(2) Course ID:000990
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. Co-requisite: ADX 260. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AET Applied Engineering Technology

AET 102(4) Course ID:006359
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.
Components: Lecture
Attributes: Technical

AET 190(4) Course ID:006370
Industrial Computer Programming Concepts
Covers programming concepts specifically directed toward industrial programmable devices such as PLCs. Pre-requisite: Consent of instructor. Lecture/Lab: 4.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

AET 250(4) Course ID:006376
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. Pre-requisite: AET 190. Lecture/Lab: 4.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

AET 270(4) Course ID:006378
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. Pre-requisite: EET 276 and EET 277. Lecture / Lab: 4.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

AFS Air Force Studies

AFS 111(1) Course ID:005359
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. Co-requisite: AFS 112. Lecture: 1 credit (15 contact hours).
Components: Lecture
Attributes: Technical

AFS 112(1) Course ID:005360
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. Co-requisite: AFS 111. Laboratory: 1 credit (45 contact hours).
Components: Laboratory
Attributes: Technical
AHS 201(3)  Course ID:002358  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). Components: Laboratory, Lecture
Attributes: Technical
AHS 203(3)  Course ID:005479  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 understanding of health and wellness and the variety of meanings these terms carry for members of differing sociocultural populations. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

AHS 1151(1)  Course ID:016312  Medical Terminology Word Roots
Emphasizes word structures and the definition of root words, prefixes, and suffixes from Latin and Greek. Lecture: 1 credit (15 contact hours).
Components: Lecture
AHS 1152(1)  Course ID:016313  Basic Elements of Terminology
Focuses on basic elements of medical words from Greek or Latin roots, together with additional emphasis on spelling and pronunciation. Pre-requisite: AHS 1151. Lecture: 1 credit (15 contact hours).
Components: Lecture
AHS 1153(1)  Course ID:016314  Advanced Word Roots & Systems
Focuses on advanced word structures and the definition of root words, suffixes and prefixes from Greek and Latin that are related to human body structures; also includes the study of commonly used medical abbreviations. Pre-requisite: AHS 1152. Lecture: 1 credit (15 contact hours).
Components: Lecture

AIM Advanced Integrated Manufacturing
AIM 100(3)  Course ID:016284  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. Prerequisite: Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture: 2 credits (30 contact hours), Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules, Technical
AIM 1001(1.5)  Course ID:016583  Basic Safety in Manufacturing
Introduces basic manufacturing safety and ergonomic techniques. Prerequisites: Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture/Lab: 1.5 credits (30 contact hours).
Components: Lecture
AIM 1002(1.5)  Course ID:016584  Manufacturing With Quality
Introduces basic quality and auditing techniques as well as basic statistical tools used in the manufacturing environment. Lecture/Lab: 1.5 credits (30 contact hours).
Components: Lecture

AIM 1101(1)  Course ID:016585  Industrial Materials and Safety
Addresses safety in a traditional and CNC machining environment and introduces industrial materials and their properties. Prerequisites: Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture/Lab: 1.0 credits (20 contact hours).
Components: Lecture
AIM 1102(1)  Course ID:016586  Metal Removal and Metrology
Introduces the science of measurement and metal removal fundamentals for various industrial processes and materials. Prerequisites: AIM 1101. Lecture: 1.0 credit (20 contact hours).
Components: Lecture
AIM 1103(1)  Course ID:016588  CNC-Nontraditional Machining
Introduces different types of nontraditional machining and CNC (G and M) coding used to control nontraditional machining. Prerequisites: AIM 1102 or consent of instructor. Lecture/Lab: 1.0 credits (20 contact hours).
Components: Lecture
AIM 1201(1)  Course ID:016589  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. Prerequisite: Reading and math assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture: 1.0 credit (20 contact hours).
Components: Lecture
AIM 1202(1)  Course ID:016590  Plastic Formulation and Design
Presents the different polymer formulations (polymerization) and applications. Discusses product considerations, design for manufacturability (DFM) and extrusion. Prerequisite: AIM 1201 or Consent of Instructor. Lecture/Lab: 1.0 credits (20 contact hours).
Components: Lecture
AIM 1203(1)  Course ID:016591  Plastic Molding Processes
Presents the industry standards and process techniques of thermoforming, injection molding and laminating. Discusses different types of plastic resin and the proper handling and preparation for production. Prerequisite: AIM 1202 or Consent of Instructor. Lecture/Lab: 1.0 credit (20 contact hours).
Components: Lecture

AIT Advanced Industrial Integrated
AIT 100(4)  Course ID:005955  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. Prerequisites: Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture/Lab: 4.0 credits (90 contact hours). (30:1 Ratio Lab).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Course Also Offered in Modules, Technical
AIT 110(3)  Course ID:005956  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. Prerequisite: AIT 100 or consent of instructor. Lecture/Lab: 3 credits (67.5 contact hours).
Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules, Technical

AIT 120(3)  Course ID:005957  Equipment Installation
Focuses on the installation of electrical, hydraulic, and pneumatic industrial systems. Emphasizes motor installation, wiring/alarm selection, conduit preparation and installation, hydraulic/pneumatic supply piping, controls, and various lifting and rigging techniques. Prerequisite: AIT 100 or consent of instructor. Lecture/Lab: 3.0 credits (75 contact hours). (30:1 Ratio Lab).
Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules

AIT 130(4)  Course ID:005958  Measurement and Instrumentation
Covers measurement and instrumentation concepts and applications, choice of proper instrumentation and calibration, manual and automated measurement processes. Prerequisite: AIT 140 or consent of instructor. Lecture/Lab: 4.0 credits (60 contact hours). (30:1 Ratio).
Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules
AIT 135(3)  Course ID:007384  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 R-ETA credentialing. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

AIT 140(4)  Course ID:005959  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).
Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules
AIT 145(6)  Course ID:017229  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).
Components: Laboratory, Lecture
Attributes: Technical

AIT 160(1)  Course ID:005961  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. Prerequisite: Reading assessment scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture: 1 credit hour (15 contact hours).
Components: Lecture
Attributes: Technical

AIT 220(3)  Course ID:006565  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).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical
AIT 245(6) Course ID:017228
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. Pre-requisite: AIT 145. Lecture: 1 credit hour (15 contact hours). Laboratory: 5 credit hours (225 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

AIT 290(0.1 - 5) Course ID:005965
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lecture/Lab: Varies by topic.
Components: Lecture
Attributes: Technical

AIT 1001(2) Course ID:006150
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. 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: 2.0 credits (45 contact hours).
Components: Lecture

AIT 1002(1) Course ID:006151
Power Development
Introduces electrical power systems used in industrial settings, including basic theory and application of alternators, electric motors, and three-phase. Pre-requisite: AIT 1001 or Consent of Instructor. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Integrated Lecture

AIT 1003(1) Course ID:006152
Hydraulic/Pneumatic Fundamentals
Introduces basic theory and application of hydraulic and pneumatic industrial power systems. Pre-requisite: Reading assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Integrated Lecture

AIT 1101(1) Course ID:006153
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. Pre-requisite: AIT 1001 or consent of instructor. Lecture/Lab: 1.0 credits (22.5 contact hours).
Components: Lecture

AIT 1102(2) Course ID:006154
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. Pre-requisite: AIT 1003 or consent of instructor. Lecture/Lab: 2.0 credits (45 contact hours).
Components: Laboratory, Lecture

AIT 1201(1) Course ID:006155
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. Pre-requisite: AIT 1101 or consent of instructor. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Laboratory, Lecture

AIT 1202(1) Course ID:006156
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. Pre-requisite: AIT 1102 or consent of instructor. Lecture/Lab: 1 credit (25 contact hours).
Components: Laboratory, Lecture

AIT 1203(1) Course ID:006157
Mechanical Installation
Includes motor and machine mounting, speed, torque, power measurement, and various lifting and rigging techniques. Pre-requisite: Reading assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses or consent of instructor. Lecture/Lab: 1 credit (25 contact hours).
Components: Laboratory, Lecture

AIT 1301(2) Course ID:006158
Principles of Instrumentation
Introduces measurement and instrumentation concepts and applications by examining the four main components of instrumentation: temperature, pressure, flow, and level. Pre-requisite: AIT 1301 or consent of instructor. Lecture / Lab: 2.0 credit (45.0 contact hours).
Components: Laboratory, Lecture

AIT 1302(2) Course ID:006159
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. Pre-requisite: AIT 1301 or consent of instructor. Lecture/Lab: 2.0 credits (45 contact hours).
Components: Laboratory, Lecture

AIT 1401(2) Course ID:006161
Basic Electrical Controls
Provides instruction in the integrated application of basic electrical controls including electrical motor controls with starting, reversing, and stopping devices. Pre-requisite: AIT 1101. Lecture/Lab: 2.0 credits (45 contact hours).
Components: Laboratory, Lecture

AIT 1402(1) Course ID:006162
Basic Pneumatic Controls
Introduces the student to pneumatic speed control circuits. Uses air pressure regulators and flow controls to obtain cylinder speeds. Pre-requisite: AIT 1102 or consent of instructor. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Laboratory, Lecture

AIT 1403(1) Course ID:006163
Basic Hydraulic Controls
Provides instruction in hydraulic speed and pressure control; includes flow control valves, metering circuits, pressure reducing valves, and sequence valves. Pre-requisite: AIT 1102 or consent of instructor. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Laboratory, Lecture

AIT 1501(2) Course ID:006164
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. Pre-requisite: AIT140 or AIT1401 or consent of instructor. Lecture/Lab: 2.0 credits (45 contact hours).
Components: Laboratory, Lecture

AIT 1502(1) Course ID:006165
Intermediate Pneumatic Controls
Provides instruction in the integrated application of advanced industrial controls for pneumatic systems. Emphasizes pneumatic logic circuits. Pre-requisite: AIT 1402 or consent of instructor. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Laboratory, Lecture

AIT 1503(1) Course ID:006166
Intermediate Hydraulic Controls
Provides instruction in the integrated application of advanced industrial controls for hydraulic circuits. Emphasizes hydraulic synchronization circuits and multi-pressure circuits. Pre-requisite: AIT 1403 or consent of instructor. Lecture/Lab: 1.0 credit (22.5 contact hours).
Components: Laboratory, Lecture

AIT 1901(1) Course ID:006562
Water and Steam Systems
Provides instruction in the main components and integration of water and steam systems within a fossil fuel power plant. (Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses) OR consent of instructor. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

AIT 1902(1) Course ID:006563
Air and Gas Flows
Provides instruction in the main components and integration of air and gas flows within a fossil fuel power plant. (Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses) OR consent of instructor. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

AIT 1903(1) Course ID:006564
Power Distribution
Provides instruction in the main components and integration of the power distribution of a fossil fuel power plant. (Reading and Mathematics assessment exam scores above KCTCS developmental placement level or successful completion of prescribed developmental courses) OR consent of instructor. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

AIT 2001(2) Course ID:006167
Integrated Process Management
Emphasizes project team organization. Introduces the following concepts: cycle time, production time, first pass yield, and barrier identification. Pre-requisite: AIT 130 or Consent of Instructor. Lecture/Lab: 2.0 credits (45 contact hours).
Components: Integrated Laboratory, Integrated Lecture

AIT 2002(2) Course ID:006168
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: Integrated Laboratory, Integrated Lecture

AIT 2101(1) Course ID:006169
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 credit (22.5 contact hours).
Components: Laboratory, Lecture

AIT 2102(1) Course ID:006170
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: Lecture
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. Pre-requisite: Introductory biology or zoology. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

ANT Anthropology

ANT 101(3) Course ID:004855
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).

Components: Lecture
Attributes: SB - Social Behavior Science

ANT 130(3) Course ID:000044
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).

Components: Lecture
Course Equivalents: REL 130
Attributes: Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

ANT 160(3) Course ID:002204
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. Features extended descriptions of the cultural dynamics of the culture(s) with which the instructor has worked. Directed at non-majors. Lecture: 3 credits.

Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

ANT 220(3) Course ID:000043
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. Pre-requisite: ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading courses. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

ANT 221(3) Course ID:002196
Native People of North America
Surveys the aboriginal Native American cultures of North America, 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).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

ANT 223(3) Course ID:007065
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. Pre-requisite: ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading courses. Lecture: 3.0 credit hours (45 contact hours).

Components: Lecture
Attributes: SB - Social Behavior Science

ANT 235(3) Course ID:002205
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. Pre-requisite: ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading courses. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

ANT 240(3) Course ID:002206
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).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

ANT 241(3) Course ID:000045
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).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

ANT 242(3) Course ID:000046
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).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

APS Apprenticeship Studies

APS 201(20 - 40) Course ID:000048
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). Pre-requisites: Completion of national/state certified apprenticeship program. Lecture/Lab: 20-40 credit hours (144 contact hours).

Components: Lecture
Attributes: Technical

AFT Applied Process Technology

AFT 102(4) Course ID:004540
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. Pre-requisite: Test at MAT126 eligible or MAT 065 or Consent of Instructor. Lecture: 2.0 credits (30 contact hours), Lab: 2.0 credits (120 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

AFT 104(3) Course ID:004537
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 instrumentation, basic troubleshooting skills, and basic maintenance skills typically performed by personnel on pumps, compressors, and prime movers. Pre-requisite: Test at MAT126 eligible or MAT 065 or Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Laboratory: 2.0 credits (120 contact hours).

Components: Laboratory, Lecture
Attributes: Technical
**APT 106(2) Course ID:004538**

**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. Pre-requisite: Test at MAT 126 eligible or MAT 065 or Consent of Instructor. Lecture: 2 credits (30 contact hours).

Components: Lecture Attributes: Technical

**APT 108(2) Course ID:004539**

**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. Pre-requisite: Test at MAT 126 eligible or MAT 065 or Consent of Instructor. Lecture: 1.0 credit (15 contact hours), Lab: 1.0 credit (30 contact hours).

Components: Laboratory, Lecture Attributes: Technical

**APT 142(4) Course ID:004541**

**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. Pre-requisite: APT 108 with a grade of "C" or greater OR Instructor Consent. Lecture/Lab: 4.0 credits (105 contact hours).

Components: Lecture Attributes: Technical

**APT 144(4) Course ID:004542**

**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 ensure an understanding of process operations. Includes unit operations, industrial chemical operations, and a variety of equipment used in industrial processes. Pre-requisite: APT 108 with a grade of "C" or greater or Permission of Instructor. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (120 contact hours/60:1 ratio).

Components: Laboratory, Lecture Attributes: Technical

**APT 146(2) Course ID:004543**

**Process Applications**

Develops an understanding of how to control and operate processes. Involves work on real life simulators to ensure an understanding of process operations. Includes a study of interactive control strategies in unit operations, industrial chemical operations, and compressor operations and applications. Pre-requisite: APT 108 with a grade of "C" or greater or Permission of Instructor. Lecture: 2 credits (30 contact hours).

Components: Lecture Attributes: Technical

**APT 148(2) Course ID:004544**

**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. Pre-requisite: APT 108 with a grade of "C" or greater or Permission of Instructor. Lecture: 2 credits (30 contact hours).

Components: Lecture Attributes: Technical

**APT 150(2) Course ID:005336**

**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. Pre-requisite: APT 108 with a grade of "C" or greater. Lecture: 4 credits (60 contact hours), Laboratory: 2 credits (120 contact hours).

Components: Laboratory, Lecture Attributes: Technical

**APT 156(2) Course ID:005337**

**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 protection equipment incorporated into unit operations. Pre-requisite: APT 108 with a grade of "C" or greater. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (60 contact hours).

Components: Laboratory, Lecture Attributes: Technical

**APT 158(2) Course ID:005510**

**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. Pre-requisite: APT 108 or Consent of Instructor. Co-requisite: APT 159, EET 150, EET 151. Lecture: 3 credits (45 contact hours).

Components: Lecture Attributes: Technical

**APT 159(4) Course ID:005511**

**Lineman Technology I 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. Pre-requisite: APT 158, APT 159, EET 150, EET 151. Co-requisite: APT 258, Laboratory: 4 credits (240 contact hours).

Components: Laboratory Attributes: Technical

**APT 202(3) Course ID:004545**

**Federaled 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 waste response to incidents. Covers the required skills to qualify them as 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. Pre-requisite: Consent of Instructor. Lecture / Lab: 3.0 credits (90 contact hours).

Components: Lecture Attributes: Technical

**APT 204(1) Course ID:004546**

**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.) Pre-requisite: APT 149 with a grade of "C" or greater. Co-requisite: APT 202. Laboratory: 1 credit (60 contact hours/60:1 ratio).

Components: Laboratory Attributes: Technical

**APT 251(2) Course ID:001036**

**Application of Process Operations**

Prepares the student to demonstrate a working knowledge of the application of the basic components involved in process operations. Pre-requisite: Instructor Consent. Lecture/Lab: 2.0 credits (75 contact hours).

Components: Lecture Attributes: Technical

**APT 258(3) Course ID:005512**

**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. Pre-requisite: APT 158, APT 159, EET 150, EET 151. Co-requisite: APT 258, Laboratory: 4 credits (240 contact hours).

Components: Laboratory Attributes: Technical

**APT 291(2 - 3) Course ID:001037**

**Instructor Consent Required**

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. Pre-requisite: Consent of Instructor. Discussion: 2.0 - 3.0 credits (45-135 contact hours).

Components: Discussion Attributes: Technical

**ART 104(3) Course ID:000436**

**Introduction to African Art**

Examines the arts of Africa, including sculpture, painting, pottery, textiles, architecture, art forms, 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).

Components: Lecture Attributes: Cultural Studies, AH - Arts and Humanities
ART 105(3)  
**Course ID: 000035**  
**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. Pre-requisite: English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s). Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**106(3)  
Course ID: 000036**  
**Renaissance Through Modern Art History**  
Surveys the historical development of Western art and architecture from the 14th Century through the present. Pre-requisite: English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s). Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**108(3)  
Course ID: 007380**  
**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. Pre-requisite: RDG 185, ENC 091. Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** Cultural Studies, AH - Arts and Humanities  
**109(3)  
Course ID: 017674**  
**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. Pre-requisite: English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s). Pre-requisite or Co-requisite: English and Reading assessment exam scores above the developmental placement level or the successful completion of prescribed developmental course(s). Lecture: 3.0 credit hours (45 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**110(3)  
Course ID: 004110**  
**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).  
**Components:** Lecture  
**Attributes:** Other  
**112(3)  
Course ID: 004111**  
**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).  
**Components:** Lecture  
**Attributes:** Other  
**113(3)  
Course ID: 004112**  
**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).  
**Components:** Lecture  
**Attributes:** Other  
**121(3)  
Course ID: 004015**  
**School Art**  
Introduction to art and to the teaching of art in the lower (1-3) elementary grades. Lecture: 3 credits. Laboratory: 0 credits.  
**Components:** Laboratory, Lecture  
**121(3)  
Course ID: 000621**  
**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. 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. Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**201(2)  
Course ID: 000457**  
**Medieval Art History**  
Examines the architecture, sculpture, painting, and related arts from the rise of Christianity to the beginnings of the Renaissance. 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. Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**202(3)  
Course ID: 000186**  
**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. 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. Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**203(3)  
Course ID: 000086**  
**Modern Art History**  
Examines the visual arts from the 18th through the 20th centuries, with primary emphasis on Europe and the United States. 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. Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**204(3)  
Course ID: 015848**  
**African American Art**  
Provides an introduction to African American Art. Examines the architecture, sculpture, painting, and performance art from the early centuries, with emphasis on the major styles, artists, and developments from the early Renaissance through the age of the Baroque. 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. Lecture: 3.0 credits (45 contact hours).  
**Components:** Lecture  
**Attributes:** AH - Arts and Humanities  
**205(3)  
Course ID: 015848**  
**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. Continued 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. Pre-requisite: ART 211 or Consent of Instructor. Lecture/Lab: 3.0 credit hours (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**206(3)  
Course ID: 007075**  
**Jewelry/Metals II**  
Introduces the aesthetic and technical issues relating to basic metalsmithing techniques such as sawing, filing, piercing, forging, forming, soldering, and finishing. Uses a variety of media. Lecture/Lab: 3.0 credits (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**211(3)  
Course ID: 004113**  
**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. Pre-requisite: ART 110. Lecture/Lab: 3.0 credits (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**220(3)  
Course ID: 004115**  
**Painting I**  
Studio investigation of the technical and formal concerns of painting, including an understanding of color theory, materials, paint application, and image making. Pre-requisite: ART 110 or Consent of Instructor. Lecture/Lab: 3.0 credits (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**221(3)  
Course ID: 004116**  
**Painting II**  
Includes advanced studio investigation of the technical and formal concerns of painting. Continues the development of individual style and expression. Pre-requisite: ART 220. Lecture/Lab: 3.0 credits (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**232(3)  
Course ID: 007076**  
**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, enamelung, forging, casting, and more advanced sculptural processes. Includes discussion and critique as integral parts of the coursework. Pre-requisite: ART 211 or Consent of Instructor. Lecture/Lab: 3.0 credit hours (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other  
**240(3)  
Course ID: 004117**  
**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).  
**Components:** Lecture  
**Attributes:** Other  
**241(3)  
Course ID: 004118**  
**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. Pre-requisite: ART 240. Lecture/Lab: 3.0 credits (90 contact hours).  
**Components:** Lecture  
**Attributes:** Other
ART 251(3) Course ID:016141
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. Pre-requisite or Co-requisite: ART 110 & ART 112, OR consent of instructor. Lecture/Lab: 3.0 credits (90 contact hours)
Components: Lecture Attributes: Other

ART 252(3) Course ID:016142
Typography
Introduces core principles of typography through a series of progressively complex studio assignments supported by readings, lectures, and software tutorials. Pre-requisite: ART 251 OR consent of instructor. Lecture/Lab: 3.0 credit hours (90 contact hours)
Components: Lecture Attributes: Other

ART 260(3) Course ID:004119
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. Pre-requisite: ART 110, ART130. Lecture/Lab: 3.0 credits (90 contact hours)
Components: Lecture Attributes: Other

ART 261(3) Course ID:006207
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. Pre-requisite: ART 260 or consent of instructor. Lecture/Lab: 3.0 credits (90 contact hours)
Components: Lecture Attributes: Other

ART 270(5) Course ID:006208
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. Pre-requisite: (ART 110 and ART 120) or consent of instructor. Lecture/Lab: 3.0 credits (90 contact hours)
Components: Lecture Attributes: Pre-requisite

ART 271(3) Course ID:006209
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. Pre-requisite: ART 270 or permission of instructor. Lecture/Lab: 3.0 credits (90 contact hours)
Components: Lecture Attributes: Pre-requisite

ART 281(3) Course ID:006211
Digital Photography
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)
Components: Lecture Attributes: Other

ART 282(3) Course ID:006212
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. Pre-requisite: ART 281 or permission of instructor. Lecture/Lab: 3.0 credits (90 contact hours)
Components: Lecture Attributes: Other

ART 290(3) Course ID:006213
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. Pre-requisite: 9 credits of ART 100 / 200 level classes or permission of instructor. Lecture: 2.0 credits (30 contact hours), Laboratory: 1.0 credit (30 contact hours)
Components: Laboratory, Lecture

ART 298(1 - 3) Course ID:006214
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Laboratory: 1-3 credits (30-90 contact hours)
Components: Laboratory Attributes: Other

ASL American Sign Language
ASL 101(3) Course ID:005753
American Sign Language I
A functional-ritual 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)
Components: Laboratory, Lecture Attributes: Foreign Language, Cultural Studies, University Course (Eastern Kentucky University)

ASL 102(3) Course ID:005754
American Sign Language II
Continued development of basic knowledge of and understanding of conversational ASL and cultural features of the language and community. Pre-requisite: ASL 101, with a minimum grade of C or permission of instructor. Lecture: 3 credits (45 contact hours), Laboratory: 0 credit (15 contact hours)
Components: Laboratory, Lecture Attributes: Foreign Language, Cultural Studies, University Course (Eastern Kentucky University)

ASL 201(3) Course ID:005755
American Sign Language III
Development of intermediate expressive and receptive ASL skills and cultural features of the language and community. Pre-requisite: ASL 102 with a minimum grade of C or permission of instructor. Lecture: 4 credits (45 contact hours), Laboratory: 1.0 credit (15 contact hours)
Components: Laboratory, Lecture Attributes: Foreign Language, University Course (Eastern Kentucky University)

ASL 202(3) Course ID:005756
American Sign Language IV
Continued development of intermediate expressive and receptive ASL skills and cultural features of the language and community. Pre-requisite: ASL 201 with a minimum grade of C or permission of instructor. Lecture: 3 credits (45 contact hours), Laboratory: 0 credits (15 contact hours)
Components: Laboratory, Lecture Attributes: Foreign Language, University Course (Eastern Kentucky University)

AST 101(3) Course ID:000058
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)
Components: Lecture Attributes: SN - Science

AST 155(3) Course ID:006341
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. Pre-requisite: MT065 and ENC091or equivalent as determined by KCTCS placement examination. Lecture: 3 credits (45 contact hours)
Components: Lecture

AST 191(3) Course ID:000060
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)
Components: Lecture Attributes: SN - Science

AST 192(3) Course ID:000062
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. Pre-requisite: MAT085 or a minimum ACT math score of 18. Lecture: 3 credits (45 contact hours)
Components: Lecture Attributes: SN - Science

AST 195(1) Course ID:000065
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. Pre-requisite or co-requisite: AST101 or AST191 or AST192, MAT 085 or two years of high school algebra, or consent of the instructor. Lab: 1.0 (15 Contact Hours)
Components: Laboratory Attributes: SL - Science Laboratory

ATE Aviation/Airway Management
ATE 100(1) Course ID:007113
Aviation Math
Covers mathematics related to the aerodynamic and physical forces acting on an aircraft in flight. Pre-requisite: Computer Literacy or Consent of Instructor. Lecture/Lab: 1.0 credit (40.5 contact hours)
Components: Lecture Attributes: Technical

ATE 102(3) Course ID:007114
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. Pre-requisite: Computer Literacy or Consent of Instructor. Lecture/Lab: 3.0 credits (96 contact hours)
Components: Lecture Attributes: Technical
Instructor. Lecture/Lab: 3.0 credits (96 contact hours).

Attributes: Technical

ATE 106(3)  Course ID: 007116
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. Pre-requisite: Computer Literacy or Consent of Instructor. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 108(3)  Course ID: 007117
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. Pre-requisite: Computer Literacy or Consent of Instructor. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 202(3)  Course ID: 007118
Aircraft Structures I
Covers the principles of sheet metal layout, bending, and rivet installation. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 204(3)  Course ID: 007119
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 206(3)  Course ID: 007120
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 208(3)  Course ID: 007121
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 tubing and flex materials. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 222(3)  Course ID: 007122
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 224(3)  Course ID: 007123
Aircraft Systems II
Covers checking, inspecting, troubleshooting and repair of aircraft electrical system and system components. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 226(3)  Course ID: 007124
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 228(3)  Course ID: 007125
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, anti-skid 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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 242(3)  Course ID: 007126
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 244(3)  Course ID: 007127
Aircraft Powerplants II
Covers inspection, checking, servicing and the repair of opposed and radial engines and reciprocating engine installation. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 246(3)  Course ID: 007128
Aircraft Powerplants III
Includes construction, repair and overhaul of turbine engines. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 248(3)  Course ID: 007129
Aircraft Powerplants IV
Includes construction, repair and overhaul of turbine engines. Covers the operation and inspection of turbine engines. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 252(3)  Course ID: 007130
Aircraft Powerplants V
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 254(3)  Course ID: 007131
Aircraft Powerplants VI
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 256(3)  Course ID: 007132
Aircraft Powerplants VII
Covers the inspection, checking, troubleshooting, servicing and repair of engine exhaust system components, engine exhaust system components, and engine fire detection and extinguishing systems. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical

ATE 258(3)  Course ID: 007133
Aircraft Powerplants VIII
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. 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. Lecture/Lab: 3.0 credits (96 contact hours).

Components: Lecture Attributes: Technical
ATE 299 Course ID: 004550
Instructor Consent Required
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 instructor; course may be repeated with different topics to a maximum of six credit hours. Lecture: varies. Laboratory: varies. Pre-requisite: Consent of Instructor.
Components: Laboratory, Lecture
Attributes: Technical

AUT Automotive Technology

AUT 110(3) Course ID: 001050
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).
Components: Lecture
Attributes: Technical

AUT 111(2) Course ID: 001051
Brake Systems Lab
Develops 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. Pre-requisite or Co-requisite: AUT 110. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 130(3) Course ID: 001052
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).
Components: Lecture
Attributes: Technical

AUT 131(2) Course ID: 001053
Manual Drive Train and Axles Lab
Develops 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. Pre-requisite or Co-requisite: AUT 130. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 140(3) Course ID: 001054
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).
Components: Lecture
Attributes: Technical

AUT 141(2) Course ID: 001055
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. Pre-requisite or Co-requisite: AUT 140. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 142(3) Course ID: 001056
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).
Components: Lecture
Attributes: Technical

AUT 143(2) Course ID: 001057
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. Pre-requisite or Co-requisite: AUT 142. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 160(3) Course ID: 001058
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).
Components: Lecture
Attributes: Technical

AUT 161(2) Course ID: 001059
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. Pre-requisite or Co-requisite: AUT 160. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 180(3) Course ID: 001060
Automatic Transmission/Transaxle
Involves the study of the operation of rear and front wheel drive automatic transmissions and transaxles and the testing and diagnostic process. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

AUT 181(2) Course ID: 001061
Automatic Transmission/Transaxle Lab
Develops 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. Pre-requisite or Co-requisite: AUT 180. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 198(1) Course ID: 001062
Instructor Consent Required
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. Pre-requisite: Permission of the Instructor. Practicum: 1 credit (75 contact hours).
Components: Practicum
Attributes: Technical

AUT 240(3) Course ID: 001064
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).
Components: Lecture
Attributes: Technical

AUT 241(2) Course ID: 001065
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. Pre-requisite or Co-requisite: AUT 240. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 275(3) Course ID: 006899
Hybrid and Electric Vehicle Technology
Focuses on the theories, principles, and diagnosis relating to hybrid automobiles. Pre-requisite: ADX 120 and ADX 121 and ADX 260 and ADX 261. Co-requisite: AUT 276. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

AUT 278(2) Course ID: 006890
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. Pre-requisite: ADX 120 and ADX 121 and ADX 260 and ADX 261. Co-requisite: AUT 275. Lab: 2.0 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 290(1) Course ID: 001066
Instructor Consent Required
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. Pre-requisite: Permission of Instructor. Laboratory: 1 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

AUT 291(2) Course ID: 001067
Instructor Consent Required
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. Pre-requisite: Permission of Instructor. Laboratory: 2 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

AUT 292(3) Course ID: 001068
Instructor Consent Required
Special Problems
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. Pre-requisite: Permission of Instructor. Laboratory: 3 credits (135 contact hours).
Components: Laboratory
Attributes: Technical

AUT 298(1) Course ID: 001069
Instructor Consent Required
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. Pre-requisite: Permission of the Instructor. Practicum: 1 credit hour (75 contact hours).
Components: Practicum
Attributes: Technical
BAS 110(3) Course ID:016239
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 formulas 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. Pre-requisite: Computer Literacy or Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

BAS 120(3) Course ID:000995
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. Pre-requisite: Completion of or concurrent enrollment in MAT 65 or higher level math or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 125(3) Course ID:016879
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.
Components: Lecture Attributes: Technical

BAS 126(2) Course ID:016880
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. Pre-requisite: BAS 125. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

BAS 155(3) Course ID:000100
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).
Components: Lecture Attributes: Technical

BAS 160(3) Course ID:000101
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).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 170(3) Course ID:005244
Entrepreneurship
Focuses on the concepts and processes of business development, finance, and business plan preparation and their impact on entrepreneurism. Small business management. Pre-requisite: BAS 160 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 200(3) Course ID:000104
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. Pre-requisite: BAS 160 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 201(3) Course ID:004465
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 strategies to deliver quality service. Topics include customer’s point of view, bookmarking 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).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 212(3) Course ID:000105
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. Pre-requisite: MAT 105 or MAT 110 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 256(3) Course ID:002280
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. Pre-requisite: BAS 160 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules

BAS 260(2) Course ID:004432
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).
Components: Lecture

BAS 267(3) Course ID:000107
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).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 270(1) Course ID:000106
Business Employability Seminar
Develops 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. Pre-requisite: CIT 105 Introduction to Computers, Sophomore Standing, and Business Administration Program Students only, or Consent of Instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

BAS 274(3) Course ID:000108
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. Pre-requisite: BAS 160 and BAS 283 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

BAS 280(1 - 4) Course ID:004474
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). Pre-requisite: Sophomore Standing or Consent of Instructor. Practicum/Internship: 1.0 - 4.0 credits
Components: Practicum Attributes: Technical

BAS 282(3) Course ID:000109
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. Pre-requisite: BAS 160 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical
BIO 120(3)  Course ID:000126  
Human Ecology  
Interrelationships among humans, other organisms and the environment including principles of energy and matter, resource use, biogeochemical cycling, trophic structures, sustainability and human impacts on the environment. Pre-requisite/Co-requisite: BIO 120 or BIO 124. Lecture: 1 credit (30 contact hours).

Components: Laboratory  
Attributes: SN - Science

BIO 121(1)  Course ID:005191  
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/Co-requisite: BIO 120 or BIO 124. Laboratory: 1 credit (30 contact hours).

Components: Laboratory  
Attributes: SL - Science Laboratory

BIO 122(3)  Course ID:000175  
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. Pre-requisite: High school biology recommended. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: SN - Science

BIO 124(3)  Course ID:000177  
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).

Components: Lecture  
Attributes: SN - Science

BIO 130(3)  Course ID:000170  
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).

Components: Lecture  
Attributes: SN - Science

BIO 135(4)  Course ID:000169  
Basic Anatomy and Physiology 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. 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. Lecture: 3.0 credits (45 contact hours), Lab: 1.0 credit (30 contact hours).

Components: Laboratory, Lecture  
Attributes: SL - Science Laboratory, SN - Science

BIO 135(1 - 2)  Course ID:017507  
Supplemental Instruction for Human Anatomy and Physiology Laboratory  

Components: Lecture  
Attributes: Other, Supplemental Science

BIO 137(4)  Course ID:000172  
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. 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. Lecture: 3.0 credits (45 contact hours); Lab: 1.0 credit (30 contact hours).

Components: Laboratory, Lecture  
Attributes: SL - Science Laboratory, SN - Science, Course Also Offered in Modules

BIO 137S(1 - 2)  Course ID:017259  
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. Pre-requisite: Consent of BIO 137 Instructor. Co-requisite: BIO 137. Lecture: 1.0-2.0 credits (15-30 contact hours)

Components: Lecture  
Attributes: Other, Supplemental Science

BIO 139(4)  Course ID:000174  
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. Pre-requisite: BIO 137. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

Components: Laboratory, Lecture  
Attributes: SL - Science Laboratory, SN - Science, Course Also Offered in Modules

BIO 140(3)  Course ID:000130  
Botany  
The anatomy, physiology, and biodiversity of plants emphasizing life processes, the cell, development, heredity, plant systems, evolution, taxonomy, phylogeny and ecology. Pre-requisite: BIO 112 or consent of instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: SN - Science

BIO 141(4)  Course ID:000178  
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. Pre-requisite: BIO 112 or consent of instructor. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

Components: Laboratory, Lecture  
Attributes: SL - Science Laboratory, SN - Science

BIO 142(3)  Course ID:000128  
Zoology  
The anatomy, physiology, and biodiversity of animals emphasizing life processes, the cell, development, heredity, body systems, evolution, taxonomy, phylogeny and ecology. Pre-requisite: BIO 112 or consent of instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture  
Attributes: SN - Science

BIO 143(4)  Course ID:000180  
Zoology with Laboratory  
The anatomy, physiology, and biodiversity of animals emphasizing life processes, the cell, development, heredity, body systems, evolution, taxonomy, phylogeny and ecology. Pre-requisite: BIO 112 or consent of instructor. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours).

Components: Laboratory, Lecture  
Attributes: SL - Science Laboratory, SN - Science

BIO 144(2)  Course ID:002215  
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).

Components: Lecture  
Attributes: SN - Science

BIO 145(1)  Course ID:017085  
Insect Biology Laboratory  
Investigate insect structure and function utilizing basic biological laboratory methodologies including study in taxonomy, phylogeny, behavior and ecology. Pre-requisite or Co-requisite: BIO 144 - Insect Biology. Lab: 1 credit hour (30 contact hours).

Components: Laboratory  
Attributes: SL - Science Laboratory

BIO 148(3)  Course ID:016082  
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). Pre-requisites: 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). Lecture: 3.0 credits (45 contact hours)

Components: Lecture  
Attributes: University Course (University of Kentucky)

BIO 150(3)  Course ID:000135  
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.

Components: Lecture  
Attributes: SN - Science

BIO 151(2)  Course ID:000136  
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.

Components: Laboratory  
Attributes: SL - Science Laboratory

BIO 152(3)  Course ID:000137  
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.

Components: Lecture  
Attributes: SN - Science

BIO 153(2)  Course ID:000138  
Principles of Biology Laboratory II  
Includes organismal, population and community biology. Laboratory: 2 credits (60 contact hours). Pre-requisite: BIO 152 or concurrent.

Components: Laboratory  
Attributes: SL - Science Laboratory

BIO 155(1)  Course ID:016428  
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. 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). Laboratory: 1 credit hour (2 contact hours).

Components: Laboratory  
Attributes: University Course (University of Kentucky)
Instructor. Lecture: Varies with credit. for a maximum of six credits. Pre-requisite: Permission of and critical thinking. May be repeated with different subtitle of biology in a seminar format. Emphasizes discussion

Attributes: Other

Pre-requisite: BIO 114 or BIO 150 or consent of instructor. Lecture: 0.75 credit (11.25 contact hours). Components: Lecture

BIO 122(0.75) Course ID:006124
Classification System, Genetics, and Evolution
Covers basic studies of the classification system, genetics, and evolution. Pre-requisite: BIO 1122. Lecture: 0.75 credit (11.25 contact hours). Components: Lecture

BIO 1124(0.75) Course ID:006125
Ecology and Population Dynamics
Covers basic studies of ecology and population dynamics. Pre-requisite: BIO 1123. Lecture: 0.75 credit (11.25 contact hours). Components: Lecture

BIO 1135(1) Course ID:016827
Muscle, Regulators & Generation
Introduces functional muscle structure, including the skeletal, smooth, and cardiac muscle. Pre-requisite: BIO 1122 or consent of instructor. Lecture: 0.75 credit (11.25 contact hours). Components: Laboratory

BIO 1135(1) Course ID:016828
Lymph, Blood & Gases
Covers the fundamental structure of the 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. Pre-requisite: BIO 1122 or consent of instructor. Lecture: 0.75 credit (11.25 contact hours). Components: Laboratory

BRX 110(2) Course ID:001146
Basic Blueprint Reading for Machinist
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: 2 credit hours (30 contact hours). Components: Lecture Attributes: Technical

BRX 210(2) Course ID:001151
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, multiview drawings, assembly drawings, fasteners, machining and construction processes, data control systems, balancing and control diagrams, 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. Components: Lecture Attributes: Technical

BRX 220(3) Course ID:001150
Blueprint Reading for Construction
Provides a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material list found on architectural working drawings, building materials and specifications lists, and construction dimensioning systems and charts/schedules. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical
BTN 120(1) Course ID:005631
Print Reading Fundamentals
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: Lecture

BTN 120(2) Course ID:005632
Drawing Views and Setup
Provides sketching, auxiliary and sectional views. Pre-requisite: (BTN 120 with a grade of C or better) or consent of instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

BTN 120(3) Course ID:005633
Dimensioning and Tolerances
Pre-requisite or Co-requisite: (BTN 120 with a grade of C or better) or consent of instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

BTN 220(1) Course ID:016150
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: Lecture

BTN 220(2) Course ID:016151
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. Pre-requisite: BTN 2201 or Consent of Instructor. Lecture: 2.0 credits (30 contact hours).
Components: Lecture

BTN 101(1) Course ID:004277
Introduction to Biotechnology
Introduces current and future applications of biotechnology. Covers biotechnology career opportunities and bioethics. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical

BTN 105(3) Course ID:007346
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. Pre-requisite: MAT 065 or equivalent as determined by KCTCS examination. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

BTN 106(3) Course ID:007280
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).
Components: Laboratory
Attributes: Technical

BTN 110(4) Course ID:004984
Nucleic Acid Methods
Covers theory of DNA structure and function. Emphasizes laboratory work in a variety of DNA manipulations. Pre-requisite: One semester of college biology with lab or college chemistry with lab or consent of instructor. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 115(4) Course ID:007347
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). Pre-requisite: Completion of BTN 201 and BTN 202 with a grade of C or better, or permission of program coordinator. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 125(2) Course ID:007349
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. Pre-requisite or Co-requisite: Completion of, or concurrent enrollment in BTN 201 and BTN 202. Lecture: 2.0 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

BTN 126(2) Course ID:007350
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. Pre-requisite: Completion of BTN 125 with a grade of C or better or permission of program coordinator. Lecture: 2.0 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

BTN 160(4) Course ID:007351
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. Pre-requisite: BTN 201 and BTN 202 with a grade of C or better, or permission of the program coordinator. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 201(4) Course ID:005620
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. Pre-requisite: A semester of college biology with lab or college chemistry with lab or consent of instructor. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 202(4) Course ID:005621
Biotechnology Techniques II
Introduces theory and techniques for media and solution preparations, use of analytical equipment, and laboratory safety. Includes various protein techniques, extraction and purification, and assays. Pre-requisite: BTN 201. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 210(4) Course ID:004985
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. Pre-requisite: (BTN 110 with a grade of C or better) or consent of instructor. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 220(4) Course ID:007352
Protein Bioseparation Methods
Introduces the strategies to purify proteins as part of a biotechnology process. Includes specific methods such as activity assays for enzymes, extraction of proteins from bacterial cells, salting out, dialysis, ion exchange chromatography, and polyacrylamide gel electrophoresis. Pre-requisite: Completion of BTN 201 and BTN 202 with a grade of C or better, or permission of the program coordinator. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

BTN 295(1 - 3) Course ID:007353
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. Lecture varies with credit. Pre-requisite: Permission of instructor. Lab: 1.0 - 3.0 credits (30-90 contact hours).
Components: Laboratory
Attributes: Technical

BTN 298(1 - 8) Course ID:007354
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 9 credits. Pre-requisite or Co-requisite: Completion of BTN 201 and BTN 202 with a C or better, or permission of program coordinator. Practicum: 1.0 - 8.0 credits (60-480 contact hours).
Components: Practicum
Attributes: Technical

BTN 299(1 - 3) Course ID:007355
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 or learning outcomes vary. Pre-requisite: Permission of instructor. Lecture: 1.0 - 3.0 credits (15-45 contact hours).
Components: Lecture
Attributes: Technical

BTS Biomedical Technology Systems

BTS 100(1) Course ID:007224
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. Pre-requisite: RDG 30 or equivalent based on KCTCS placement exam. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical
BTS 110(1) Course ID: 007225
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. Pre-requisite: RDG 30 or equivalent based on KCTCS placement exam. Lecture: 1.0 credit (15 contact hours).
Components: Lecture Attributes: Technical

BTS 120(2) Course ID: 007226
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. Pre-requisite: AIT 110 with a grade of C or better. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 125(2) Course ID: 007227
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. Pre-requisite: BTS 120 with a grade of C or better. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 130(2) Course ID: 007228
Medical Equipment Management I
Presents medical technology management, principles and practices with regard to medical equipment assessment, planning, acquisition, acceptance, and replacement and disposal. Pre-requisite: BTS 100, BTS 110 and AIT 1101 (each with a grade of C or better). Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 140(1) Course ID: 007229
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. Pre-requisite: PHY 171. Pre-requisite or Co-requisite: BTS 125. Lecture: 1.0 credit (15 contact hours).
Components: Lecture Attributes: Technical

BTS 200(2) Course ID: 007230
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. Pre-requisite: BTS 125 with a grade of C or better. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 210(2) Course ID: 007231
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) scanners. Pre-requisite: BIO 135, BTS 110, BTS 125, and BTS 140 (each with a grade of C or better). Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 220(2) Course ID: 007232
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, hematolgy analyzers, blood gas analyzers, electrolyte analyzers, clinical chemistry analyzers, and tissue processors. 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. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 230(2) Course ID: 007233
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. Pre-requisite: BTS 130 with a grade of C or better. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 250(2) Course ID: 007234
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. Pre-requisite: CIT 180. Pre-requisite or Co-requisite: CIT 180. Lecture/Lab: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical

BTS 260(2) Course ID: 007235
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. Pre-requisite: BIO 135, BTS 110, BTS 125, BTS 140 and BTS 230 (each with a grade of C or better). Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 270(2) Course ID: 007236
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. Pre-requisite: BIO 135, BTS 125, and BTS 140 (each with a grade of C or better). Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 275(2) Course ID: 007237
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. Pre-requisite: BTS 270 and BTS 230 (each with a grade of C or better). Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 280(2) Course ID: 007238
General Care Monitoring and Instrumentation
Presents various physiological parameters measured in low and high 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. Emphasizes the group of a variety of medical technologies including scales, thermometers, general electrocardiograph monitors, non-invasive blood pressure monitors, pulse oximeters, and spirometers. Pre-requisite: BIO 135, BTS 125, and BTS 140 (each with a grade of C or better). Pre-requisite Or Co-requisite: BTS 230. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 285(2) Course ID: 007239
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. Pre-requisite: BTS 280 and BTS 230 (both with a grade of C or better). Pre-requisite or Co-requisite: BTS 250. Lecture/Lab: 2.0 credits (37.5 contact hours).
Components: Lecture Attributes: Technical

BTS 290(2) Course ID: 007240
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. Pre-requisite: BTS 200, BTS 220, and BTS 230 (each with a grade of C or better). Pre-requisite or Co-requisite: BTS 250, BTS 260, BTS 275, and BTS 285. Clinical: 2.0 credits (120 contact hours).
Components: Lecture Attributes: Technical

BTS 295(2) Course ID: 007241
Clinical Experience in Biomedical Technology Equipment
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. Pre-requisite: BTS 200, BTS 220, and BTS 230 (each with a grade of C or better). Pre-requisite or Co-requisite: BTS 250, BTS 260, BTS 275, and BTS 285. Clinical: 2.0 credits (120 contact hours).
Components: Lecture Attributes: Technical
CAD Computer-Aided Design

CAD 100(3) Course ID:000216
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).
Components: Laboratory, Lecture
Attributes: Technical

CAD 102(4) Course ID:004052
Drafting Fundamentals
Explores the fundamentals of drafting in the use of equipment through measurement of lines, angles, 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).
Components: Lecture
Attributes: Technical

CAD 108(3) Course ID:005186
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).
Components: Lecture
Attributes: Technical

CAD 112(4) Course ID:004054
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. Pre-requisite: CAD 102 with a grade of C or better or Approval of Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 120(4) Course ID:004067
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. Pre-requisite: CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 130(4) Course ID:004057
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. Pre-requisite: CAD 112 with a grade of C or better or approval of Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 150(4) Course ID:002017
Programming in CAD
Introduces fundamental principles of the computer language(3D) 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. Pre-requisite: CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor. Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CAD 200(4) Course ID:000218
Intermediate Computer Aided Drafting
Produces 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. Pre-requisite: CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 211(4) Course ID:000219
Parametric Modeling
Introduces parametric modeling and design of a CAD workstation in exploring the techniques associated with drafting and drafting 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).
Components: Lecture
Attributes: Technical

CAD 212(4) Course ID:004059
Industrial Drafting Processes
Examines 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. Pre-requisite: CAD 100 OR CAD 103 with a grade of C or better or approval of the Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 216(4) Course ID:016429
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).
Components: Lecture
Attributes: Technical

CAD 220(4) Course ID:004068
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. Pre-requisite: CAD 120 with a grade of C or better or approval of Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 222(4) Course ID:004061
Mechanical Design
Examines the design principles, mechanical adaptation, and drafting processes for 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. Pre-requisite: CAD 100 with a grade of C or better or approval of Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 230(4) Course ID:003996
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. Pre-requisite: CAD 120 with a grade of C or better or approval of Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 240(4) Course ID:004008
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. Pre-requisite: CAD 100 with a grade of C or better or approval of the Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 250(4) Course ID:004007
Commercial Detailing
Explores commercial drafting building codes, building structure, materials, and structural drawing and detailing. Emphasizes calculations to determine appropriate structural members. Pre-requisite: CAD 120 with a grade of C or better or Approval of the Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 262(4) Course ID:005185
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. Pre-requisite: CAD 120 with a grade of C or better or approval of the Instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CAD 291(2) Course ID:004063
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. Pre-requisite: Permission of the Instructor. Lab: 2.0 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

CAD 292(4) Course ID:005188
Department Consent Required
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. Pre-requisite: Approval of instructor. Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical
CAD 298(1 - 3)  
Course ID:004065  
Department Consent Required  
Practicum  
Provides supervised work experiences related to the student's educational objectives. Students participating in the Practicum do not receive compensation. Pre-require: Approval of Program Coordinator. Practicum: 1.0-3.0 credits (45-135 contact hours).  
Components: Practicum  
Attributes: Technical

CAR 140(3)  
Course ID:001154  
Surveying & Foundations  
Surveying & Foundations-Lab  
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. Pre-require: CAR 140. Laboratory: 2 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

CAR 198(1 - 6)  
Course ID:005344  
Instructor Consent Required  
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. Pre-require: Consent of instructor. Lecture: 1-6 credits (15-90 contact hours), Laboratory: 1-6 credits (30-180 contact hours).  
Components: Lecture  
Attributes: Technical

CAR 200(3)  
Course ID:001162  
Light Frame Construction III  
Provides the concepts of interior and exterior finish materials and methods of installation. Lecture: 3 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical

CAR 201(2)  
Course ID:001163  
Light Frame Const. III-Lab  
Provides the opportunity for students to perform basic applications of the concepts of interior and exterior finish methods for light frame construction. Co-require: CAR 200. Laboratory: 2 credits (60 contact hours).  
Components: Laboratory  
Attributes: Technical

CAR 202(3)  
Course ID:001164  
Light Frame Construction IV  
Provides the concepts that support the planning, construction and installation methods for kitchen and bath cabinetry and countertops including special finish trim techniques including finish stair construction and specialty millwork. Lecture: 3 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical

CAR 241(2)  
Course ID:001165  
Light Frame Const. IV-Lab  
Provides the opportunity for students to practice the concepts that support the planning, construction and installation methods for kitchen and bath cabinetry and countertops including special finish trim techniques including finish stair construction and specialty millwork. Co-require: CAR 240. Laboratory: 2 credits (60 contact hours).  
Components: Laboratory  
Attributes: Technical

CAR 270(3)  
Course ID:007299  
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 (NBGS) rating systems for the certification process of green buildings. Lecture: 3.0 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical

CAR 298(2)  
Course ID:001166  
Practicum in Construction  
Refines the techniques and skills taught in the previous carpentry courses. Provides supervised on-the-job experience related to the student's educational and career training objectives. Pre-require: ISX 100 and/or Permission from program Instructor. Practicum: 2 credits (150 contact hours).  
Components: Practicum  
Attributes: Technical

CAR 299(1 - 3)  
Course ID:004066  
Department Consent Required  
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. Pre-require: Approval of Program Coordinator. Co-require: 1.0-3.0 credits (45-135 contact hours). Components: Co-Op  
Attributes: Technical

CAR 315(1)  
Course ID:001157  
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, stair forms, bridge and deck forms. Familiarizes student with OSHA construction standards on Concrete and Shoring, and Excavations. Co-require: CAR 150. Laboratory: 2 credits (60 contact hours).  
Components: Laboratory  
Attributes: Technical

CAR 500(3)  
Course ID:001168  
Leadership in Energy and Environmental Design (LEED)  
Introduces 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 (NBGS) rating systems for the certification process of green buildings. Lecture: 3.0 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical
CAR 299(2) Course ID:001167
Co-op in Construction
Refines the techniques and skills taught in the previous coursework. 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. Pre-requisite: ISX 100 and/or permission from program Instructor. Co-op: 2 credits (150 contact hours).

Components: Co-Op
Attributes: Technical

CAR 2001(1) Course ID:016152
Light Frame Construction III - Interior
Presents the concepts of interior finish materials and methods of installation. Lecture: 1.0 credits (15 contact hours).

Components: Lecture

CAR 2002(1) Course ID:016153
Light Frame Construction III - Exterior
Presents the concepts of exterior finish materials and methods of installation. Lecture: 1.0 credits (15 contact hours).

Components: Lecture

CAR 2003(1) Course ID:016154
Light Frame Construction III - Scheduling
Presents the concepts of interior and exterior finish materials and methods of installation. Lecture: 1.0 credits (15 contact hours).

Components: Lecture

CAR 2011(1) Course ID:016155
Light Frame Construction III Lab Interior

Components: Laboratory

CAR 2012(1) Course ID:016156
Light Frame Construction III Lab Exterior

Components: Laboratory

CDH 110(3) Course ID:016830
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. 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 assistance OR a registered dental assistant with 5 years experience OR consent of CDHC Program Coordinator. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CDH 115(3) Course ID:016831
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. 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. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CDH 125(2) Course ID:016832
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. 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. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical

CDH 220(3) Course ID:016833
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 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. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CDH 245(6) Course ID:016834
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. Pre-requisite: Must be a registered Dental Hygienist (RDH). Practicum: 6.0 hours (360 contact hours).

Components: Lecture
Attributes: Technical

CET 150(3) Course ID:004703
Civil Engineering Graphics
This course provides the opportunity for the student to learn the basic computer necessary to generate and understand typical civil engineering working drawings. The student will develop graphic communication skills using current industry standard software. Pre-requisite: CAD 100. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

CET 200(3) Course ID:004704
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. Pre-requisite: Consent of Instructor. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

CET 210(3) Course ID:004705
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. Pre-requisite: Consent of Instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CET 220(4) Course ID:004706
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: Laboratory, Lecture

CET 260(3) Course ID:004707
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. Pre-requisite: Consent of Instructor. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

CET 280(3) Course ID:004708
Highway Design
Students will be introduced to the fundamentals of highway design. Different components involved in designing a typical highway, including planning, surveying, mapping, and preliminary and final design will be explored using computer design software. Pre-requisite: CET 150 or Consent of Instructor. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (45 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

CET 295(1 - 4) Course ID:005036
Instructor Consent Required
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. Pre-requisite: Consent of Instructor. Lecture: Variable.

Components: Laboratory, Lecture
Attributes: Technical

CHE 120(3) Course ID:000237
Chemistry in Society
Introduces non-science majors to the main concepts and applications of chemistry in our society. Pre-requisite: (Math ACT 18 or higher) OR (Completion of quantitative reasoning co-requisite course). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science, Course Also Offered in Modules

CHE 125(1) Course ID:006172
Chemistry in Society Laboratory
Reinforces concepts covered in CHE 120 and introduces scientific inquiry through selected experiments. Pre-requisite OR Co-requisite: CHE 120. Laboratory: 1 credit (45 contact hours) (45:1 ratio).

Components: Laboratory
Attributes: SL - Science Laboratory
CHE 130(3)  Course ID: 0017266
Introductory General and Biological Chemistry
Prepares students for success in CHE 170. Introduces the elementary principles of general, organic and biological chemistry. Pre-requisite: (Math ACT 19 or higher) OR (Completion of MAT 085, MAT 110, MAT 116, MAT 126, or MAT 150 with a grade of "C" or better). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

CHE 135(1)  Course ID: 0017260
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. Pre-requisite or Co-requisite: CHE 130 concurrent enrollment OR CHE 130 with a grade of "C" or better. Laboratory: 1 credit hour (30 contact hours).

Components: Laboratory
Attributes: SL - Science Laboratory

CHE 140(3)  Course ID: 000224
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. Pre-requisite: (Math ACT 19 or higher) OR (Completion of MAT 085, MAT 110, MAT 116, MAT 126, or MAT 150 with a grade of "C" or better). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

CHE 145(1)  Course ID: 000239
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. Pre-requisite or Co-requisite: CHE 140. Laboratory: 1 credit (45 contact hours, 45:1 ratio).

Components: Laboratory
Attributes: SL - Science Laboratory

CHE 150(3)  Course ID: 000226
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).

Components: Lecture
Attributes: SN - Science

CHE 155(1)  Course ID: 006173
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. Pre-requisite: CHE 140 and CHE 145. Pre-requisite or Co-requisite: CHE 150. Laboratory: 1 credit (45 contact hours, 45:1 ratio).

Components: Laboratory
Attributes: SL - Science Laboratory

CHE 160(2)  Course ID: 000238
Preparation for General College Chemistry
Prepares students for success in CHE 170. Introduces vocabulary and nomenclature and provides students with practice in dimensional analysis, stoichiometry, and other critical skills. Offered on a Pass/Fail basis only. Pre-requisite: (Math ACT 19) OR (Intermediate Algebra with a grade of "C" or better). Lecture: 2 credits (30 contact hours).

Components: Lecture
Attributes: Other
and private resources while exercising creativity in helping balance care for clients with care for self. Examines employer and legal reporting requirements. Explores facing the clients and the communities they serve. Discusses how to handle ethical challenges as Community Healthcare Workers address legal and social challenges that may limit opportunities for healthy behavior. Examines working to change public awareness, marketing, and resolving conflict. Explains the Community Healthcare Workers roles, responsibilities, and limits with regard to protecting client privacy and confidentiality. Lecture 1 credit (15 contact hours).

Components: Lecture
Attributes: Technical

CHW 102(1) Course ID:017383
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).

Components: Lecture
Attributes: Technical

CHW 103(1) Course ID:017384
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).

Components: Lecture
Attributes: Technical

CHW 104(1) Course ID:017385
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: Laboratory

CHW 105(1) Course ID:017386
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).

Components: Lecture
Attributes: Technical

CHW 106(1) Course ID:017387
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 ethical concerns for clients and personal needs. 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).

Components: Lecture
Attributes: Technical

CHW 101(1) Course ID:017382
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).

Components: Lecture
Attributes: Technical

CIS 2302(0.9) Course ID:005849
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. Pre-requisite: (CIS 130 or CIS 1303) or consent of instructor. Lecture: 0.9 credits (13.5 contact hours).

Components: Lecture

CIS 2303(0.9) Course ID:005850
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. Pre-requisite: (CIS 130 or CIS 1303) or consent of instructor. Lecture: 0.9 credits (13.5 contact hours).

Components: Lecture

CIT 105(3) Course ID:004710
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. Pre-requisite: RDG 20 or Consent of instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Digital Literacy, Course Also Offered in Modules

CIT 111(4) Course ID:006189
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. Pre-requisite: (CIT 105 AND MAT 065) OR Consent of Instructor. Lecture: 4.0 credits (60 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 120(3) Course ID:004712
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 computing problems, covering development and design basics including use of variables, control and data structures, and principles of command-line and object-oriented languages. Pre-requisite: MAT 085 or (MAT 125 or higher) OR Consent of Instructor. Pre-requisite or Co-requisite: CIT 105. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 124(3) Course ID:016259
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 feature completion of partial game design work. Pre-requisite: CIT 105 OR IMI 100 OR Consent of Instructor. Co-requisite: CIT 221 OR IMI 221. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Course Equivalents: IMD 124
Attributes: Technical

CIT 125(3) Course ID:006901
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. Pre-requisite: CIT 105 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CIT 130(3) Course ID:004713
Productivity Software
Utilizes current word processing, spreadsheet, database, and presentation application software to solve common business problems. Covers basic features of each software application. Pre-requisite: CIT 105 OR OES 105 OR IMD 100 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 140(3) Course ID:004714
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 OR CIT 150 or CIT 155 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 141(3) Course ID:005037 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. Pre-requisite: CIT 120 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CIT 142(3) Course ID:006902 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. Pre-requisite: CIT 120 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 143(3) Course ID:006247 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. Pre-requisite: CIT 120 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical
CIT 144(3) Course ID:006190
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. Pre-requisite: CIT 120 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CIT 145(3) Course ID:004715
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. Pre-requisite: CIT 120 OR Consent of the Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 146(3) Course ID:017009
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. Pre-requisite: CIT 120 OR Consent of Instructor. Lecture: 3 credit hours (45 contact hours).

CIT 147(3) Course ID:006903
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. Pre-requisite: CIT 120 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 148(3) Course ID:004716
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. Pre-requisite: CIT 120 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 150(3) Course ID:004718
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: CIT 105 OR Consent of Instructor. Pre-requisite Or Co-requisite: CIT 120. Lecture: 3.0 credits (45 contact hours).

CIT 151(3) Course ID:007390
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. Pre-requisite: Digital Literacy or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 152(3) Course ID:007391
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. Pre-requisite: CIT 150 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 153(3) Course ID:006904
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. Pre-requisite: CIT 105 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 155(3) Course ID:004719
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: MAT 65 OR Consent of Instructor. Pre-requisite Or Co-requisite: CIT 111 OR Consent of Instructor Lecture: 4.0 credits (60 contact hours).

CIT 157(3) Course ID:006905
Web Site Design and Production
Introduces web site production processes with particular emphasis on design involving layout, navigation, interactivity, and using web production software. Pre-requisite: CIT 105 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 160(4) Course ID:004720
Database Design Fundamentals
Provides an overview of database and database management system concepts, internal design models, normalization, network data models, development tools, and applications. Pre-requisite: CIT 105 OR CIT 110 OR IMD 100 AND (MAT 085 OR MAT 126) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 161(4) Course ID:006906
Information 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. Pre-requisite: CIT 160 OR CIT 161 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 162(3) Course ID:006911
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. Pre-requisite: CIT 160 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 163(3) Course ID:006912
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. Pre-requisite: CIT 180 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

CIT 164(3) Course ID:007295
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. Pre-requisite: CIT 167 AND (CIT 214 OR CIT 217 OR CIT 262) OR Consent of Instructor. Lecture: Lab: 3.0 credits (60 contact hours).

CIT 165(3) Course ID:015644
Switching & Routing Essentials
Covers the architecture, components, and operations of routers and switches in a larger and more complex network. Helps students learn and troubleshoot routers and switches for advanced functionality including proper LAN design, configuring and troubleshooting routers and switches and resolving common issues with VTP, VRRP, STP protocols, link aggregation protocols and dynamic routing protocols in both IPv4 and IPv6 networks. Pre-requisite: CIT 161 or Consent of Instructor. Lecture: 4.0 credits (60 contact hours).

CIT 166(4) Course ID:007296
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). Pre-requisite: CIT 167 AND (CIT 214 OR CIT 217 OR CIT 262) OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).

CIT 167(4) Course ID:007297
Virtualization Infrastructure
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). Pre-requisite: CIT 167 AND (CIT 214 OR CIT 217 OR CIT 262) OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).

CIT 170(3) Course ID:004720
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). Pre-requisite: CIT 167 AND (CIT 214 OR CIT 217 OR CIT 262) OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).
CIT 204(3) Course ID:016721
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. Pre-requisite: CIT 203 or Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

CIT 205(3) Course ID:007297
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. Pre-requisite: (CIT 201 and CIT 203) or consent of instructor. Lecture/Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

CIT 206(3) Course ID:017347
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. Pre-requisites: CIT 170 AND (CIT 161 OR CIT 160) OR consent of the instructor. Integrated Lecture/Lab: 3.0 credits (60 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

CIT 207(3) Course ID:017414
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. Pre-requisites: CIT 206 AND CIT 167, or consent of instructor. Integrated Lecture/Lab: 3 credits (50 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

CIT 209(4) Course ID:015645
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 configuration 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. Pre-requisite: CIT 167 or Consent of instructor. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 212(4) Course ID:004723
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. Pre-requisite: CIT 209 OR Consent of Instructor. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 213(3) Course ID:006192
Microsoft Client Configuration
Covers installation and configuration of the current Microsoft Windows client operating system. Helps prepare students for exam 70-680: Microsoft certification exam series. Pre-requisite: (CIT 111 AND (CIT 160 OR CIT 161)) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 214(3) Course ID:006914
Microsoft Server Configuration
Provides students with the knowledge and skills to install, configure and administer a network server infrastructure including DNS, DHCP, Hyper-V, including the design and implementation of an Active Directory environment. Covers how to implement and configure secure network access, implement fault tolerant storage technologies, enable network technologies most commonly used with Windows Servers and IP-enabled networks, configure an Active Directory environment, and work with virtual drives and devices. Assists in preparing students for various Microsoft certification exam series. Pre-requisite: (CIT 111 AND (CIT 160 OR CIT 161)) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 215(3) Course ID:015661
Microsoft Server Administration
Covers the skills needed to maintain and administer a Windows Server 2012 environment, including user and group management, network access, and data security at an intermediate level. Helps prepare students to implement a core Windows Server infrastructure in an enterprise environment (second in a series of three courses). Pre-requisite: CIT 214 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 216(3) Course ID:015648
Microsoft Server Advanced Services
Covers the advanced configuration tasks necessary to deploy, manage, and maintain a Windows Server environment, including fault tolerance, certificate services, and identity federation. Helps prepare students to implement a core Windows Server 2012 infrastructure in an enterprise environment (third in a series of three courses). Pre-requisite: CIT 214 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 217(3) Course ID:004724
UNIX/Linux Administration
Developed in 1989, 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. Pre-requisite: (CIT 111 AND (CIT 160 OR CIT 161)) OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 218(3) Course ID:004725
UNIX/Linux Net Infrastructure
Establishing secure networking environments is a key strength of the UNIX/Linux operating system. Explores networking, naming, message transfer, remote login, routing, address assignment, distributed files systems, web, and email services in a standard UNIX/Linux server environment. Pre-requisite: CIT 217 OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

CIT 219(3) Course ID:006915
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. Pre-requisite: (CIT 160 OR CIT 161) OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

CIT 221(3) Course ID:006916
Computer Graphics
Introduces basic computer graphics with an emphasis on graphics for game design. Teaches in practical aspects of graphics such as color, ray tracing, rasterization, shading, mapping, light, and shadow. Pre-requisite: CIT105 OR IMD100 OR Consent of Instructor. Co-requisite: CIT124 OR IMD124. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Course Equivalents: IMD 221
Attributes: Technical

CIT 222(3) Course ID:016260
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. Pre-requisite: CIT/IMD 221 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Course Equivalents: IMD 222
Attributes: Technical

CIT 223(3) Course ID:006917
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. Pre-requisite: CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor. Co-requisite: CIT273 OR IMD273. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Course Equivalents: IMD 223
Attributes: Technical

CIT 225(3) Course ID:006918
GIS Data Analysis
Explores Geographical Information System extensions. Introduces and identifies popular advanced extensions used for image analysis, spatial analysis, and 3D analysis. Collects and analyzes field data utilizing GPS devices and data collection applications. Pre-requisite: CIT 125 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 228(3) Course ID:006919
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.) Pre-requisite: CIT 125 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
CIT 232(3) Course ID:006193
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. Pre-requisite: CIT 111 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 234(3) Course ID:004727
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. Pre-requisite: CIT 130 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 236(3) Course ID:004728
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. Pre-requisite: CIT 130 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 237(3) Course ID:017021
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. Pre-requisite: CIT 146 OR Consent of Instructor. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 238(3) Course ID:016662
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. Pre-requisite: CIT 149 OR INF 120 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 241(3) Course ID:006920 PHP II
Explores the dynamic features of PHP and how it can interact to form seamless websites and dynamic feature rich content. Pre-requisite: CIT 141 OR Consent of Instructor. Lecture: 3.0 (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 242(3) Course ID:006921 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++. Pre-requisite: CIT 142 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 243(3) Course ID:006248 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. Pre-requisite: CIT 143 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 244(3) Course ID:015649 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. Pre-requisite: CIT 144 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 247(3) Course ID:006923
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. Pre-requisite: CIT 147 (for the same programming language) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 249(3) Course ID:004729
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-oriented programming, advanced data types and structures, input validation, error-handling, and file and database processing. Pre-requisite: CIT 148 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 249(3) Course ID:005208
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. Pre-requisite: CIT 149 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 253(3) Course ID:005039
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. Pre-requisite: ((CIT 150 OR CIT 155 OR CIT 157) AND CIT 170 AND Approved Level I Programming Language) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 255(3) Course ID:005104
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. Pre-requisite: CIT110 OR CIT115 OR CIT157 AND CIT214 OR CIT216 OR CIT262 AND CIT219 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 257(3) Course ID:006925
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 aid in student employment within the Web Programming field. Pre-requisite or Co-requisite: CIT 253 or Co-Requisite of CIT 255 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 258(3) Course ID:005211
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. Pre-requisite or Co-requisite: CIT 253 or Co-Requisite of CIT 255 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 260(3) Course ID:004730
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. Pre-requisite: CIT 160 OR CIT 161 OR Consent of Instructor. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture

CIT 261(3) Course ID:005209
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 tools required to centrally manage users and computers. Assists in preparing 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).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 262(3) Course ID:005210
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 preparing students for exams in the Microsoft certification exam series. Pre-requisite: ((CIT 111 AND CIT 160 OR CIT 161)) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 253(3) Course ID:005039
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. Pre-requisite: ((CIT 150 OR CIT 155 OR CIT 157) AND CIT 170 AND Approved Level I Programming Language) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
CIT 263(1 - 6) Course ID: 006246
Advanced Topics in Microsoft Windows: (Topic)
Covers concepts and/or skills from special areas of interest in Microsoft Windows operating systems. Focuses on specific topics that will vary from semester to semester at the discretion of the instructor. Pre-requisite: CIT 213 or consent of instructor. Lecture: 1 - 6 credits (15 - 90 contact hours).
Components: Lecture
Attributes: Technical

CIT 264(3) Course ID: 006194
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. Pre-requisite: CIT 262 OR Consent of Instructor. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 265(3) Course ID: 006195
MS Application Servers
Focuses on the deployment, configuration and management of Microsoft servers that support users and applications, especially web servers, Remote Desktop servers SharePoint servers and file servers. Pre-requisite: CIT 213 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 276(3) Course ID: 017561
UNIX/Linux Network Services
Focuses on installing and managing network services in a UNIX/Linux environment. Pre-requisite: CIT 218 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 277(3) Course ID: 004732 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. Pre-requisite: CIT 171 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 278(3) Course ID: 016261
Game Design Theory
Introduces students to the experience-oriented standards and techniques of gaming on a digital platform. Includes hands-on conceptualization and writing of a game created by the student. Emphasizes creativity, player experiences and motivations, styles of play, types of games, character creation, world creation, and story-driven narrative within a video game. Offers students the opportunity to complete an industry-quality Game Design Document. Pre-requisite: CIT/IMD 124 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 279(3) Course ID: 016262
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. Pre-requisite: CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor. Co-requisite: CIT 223 OR IMD 223. Lecture: 3 credits (45 contact hours).
Components: Lecture
Course Equivalents: IMD 273
Attributes: Technical

CIT 274(3) Course ID: 016263
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. Pre-requisite: CIT/IMD 223 AND CIT/IMD 273 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Course Equivalents: IMD 274
Attributes: Technical

CIT 277(3) Course ID: 006927
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. Pre-requisite: CIT 247 (for the same programming language) OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 278(3) Course ID: 006928
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. Pre-requisite: CIT 248 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 284(3) Course ID: 006929
Computer Forensics
Provides basic knowledge on methods and processes for computer forensics, intrusion detection, evidence collection, disk imaging, and reporting writing. Pre-requisite: CIT 180 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 285(3) Course ID: 006930
MS Windows OS Security
Provides students the knowledge and skills necessary to secure the Windows operating system. Pre-requisite: CIT 180 AND CIT 214 OR CIT 262) OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 288(3) Course ID: 006931
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. Pre-requisite: CIT 180 AND CIT 217) OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 287(3) Course ID: 006932
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. Pre-requisite: CIT 167 OR CIT 212 OR Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 288(3) Course ID: 006197
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. Pre-requisite: (CIT 180 AND Level 1 Network Technologies Specialization Sequence) OR Consent of Instructor. Lecture/Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

CIT 290(3) Course ID: 004733
Instructor Consent Required
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. Pre-requisite: Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 291(3) Course ID: 006198
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. Pre-requisite: 36 credit hours of CIT Courses OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CIT 293(1 - 3) Course ID: 0017008
CIT Employability Studies
Creates an error-free portfolio of employment documents, using computer technology to assist with composition, proofreading, and formatting. Demonstrates proper interviewing skills through mock interviews. Complete a Career Path Employability Assessment. Pre-requisite: If yes, list: (Sophomore Standing, and CIT Program Students only) OR Consent of Instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture
Attributes: Technical

CIT 295(1 - 3) Course ID: 004741
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. Pre-requisite: Consent of Instructor. Lecture: 1.0 - 3.0 credits (15 - 45 contact hours).
Components: Lecture
Attributes: Technical

CIT 299(1 - 3) Course ID: 004742
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. Pre-requisite: Consent of Instructor. Lecture: 1.0 - 3.0 credits (15-45 contact hours).
Components: Lecture
Attributes: Technical

CIT 1051(0.5) Course ID: 006972
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. Pre-requisite: RDG 20 OR Consent of Instructor. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture
Attributes: Technical

CIT 1052(0.5) Course ID: 006973
System and Utility Software
Introduces file management and presents basic use of systems and utility software. Pre-requisite: RDG 20 OR Consent of Instructor. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture
### CIT 1053(0.8) Internet, Email, and Networks
- **Course ID:** 006974
- Introduces the Internet, e-mail, course management systems and networking. Pre-require: RDG 20 OR Consent of Instructor. Lecture: 0.8 credits (12 contact hours).
  - **Components:** Lecture

### CIT 1054(0.5) Globalization and the Cloud
- **Course ID:** 006975
- Introduces globalization and impact and use of cloud computing. Pre-require: RDG 20 OR Consent of Instructor. Lecture: 0.5 credits (7.5 contact hours).
  - **Components:** Lecture

### CIT 1055(0.6) Software Basics
- **Course ID:** 006976
- Presents basic use of application and programming software. Pre-require: RDG 20 OR Consent of Instructor. Lecture: 0.6 credits (9 contact hours).
  - **Components:** Lecture

### CIT 1301(0.8) Word Processing Applications
- **Course ID:** 006980
- Utilizes word processing application software to solve common business problems. Pre-require: CIT 105 OR OST 105 OR IMD 100 OR Consent of Instructor. Lecture: 0.8 credits (12 contact hours).
  - **Components:** Lecture

### CIT 1302(0.8) Spreadsheet Applications
- **Course ID:** 006981
- Utilizes spreadsheet application software to solve common business problems. Pre-require: Computer Literacy OR Consent of Instructor. Lecture: 0.8 credits (12 contact hours).
  - **Components:** Lecture

### CIT 1303(0.8) Database Applications
- **Course ID:** 006982
- Utilizes database application software to solve common business problems. Pre-require: Computer Literacy OR Consent of Instructor. Lecture: 0.8 credits (12 contact hours).
  - **Components:** Lecture

### CIT 1304(0.6) Presentation Software Apps
- **Course ID:** 006983
- Utilizes current presentation software application software to solve common business problems. Pre-require: Computer Literacy OR Consent of Instructor. Lecture: 0.6 credits (9 contact hours).
  - **Components:** Lecture

### CLA Classical Languages and Literature
### CLA 131(3) Medical Terminology from Greek and Latin
- **Course ID:** 008274
- 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).
  - **Components:** Lecture
  - **Attributes:** Other

### CMM Comp Manufacturing & Machining
#### CMM 110(3) 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 laths. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).
  - **Components:** Laboratory, Lecture
  - **Attributes:** Technical

#### CMM 112(3) 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 laths. Pre-require: (CMM 110 with a grade of C or greater) or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).
  - **Components:** Laboratory
  - **Attributes:** Technical

### CMM 114(6) 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).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 120(3) Applied Machining I
- Consists of intermediate level skills using machining machines and surface grinders. Includes the selection of grinding wheels. Pre-require: (CMM 110 and 112) or (CMM 114 with a grade of C or greater) or Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).
  - **Components:** Laboratory, Lecture
  - **Attributes:** Technical

### CMM 122(3) Applied Machining II
- 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).
  - **Components:** Laboratory
  - **Attributes:** Technical

### CMM 124(6) 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. Pre-require: (CMM 110 and CMM 112) or (CMM 114 with a grade of C or greater) or Consent of Instructor. Lecture/Lab: 6.0 credits (165 contact hours).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 130(3) 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).
  - **Components:** Laboratory, Lecture
  - **Attributes:** Technical

### CMM 132(3) 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).
  - **Components:** Laboratory, Lecture
  - **Attributes:** Technical

### CMM 134(6) Intro. to Programming & CNC Machines
- Introduces CAD/CAM equipment. Covers program codes and set up operations used on a variety of machine tools including technologies like waterjet. Pre-require: (CMM 110 and CMM 112) or (CMM 114 with a grade of C or greater) or Consent of Instructor. Lecture/Lab: 6.0 credits (150 contact hours/30:1 Ratio Lab).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 150(2) 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).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 151(3) Machining'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).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 152(3) 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).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 153(3) 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).
  - **Components:** Lecture
  - **Attributes:** Technical

### CMM 154(3) Die Theory
- Presents basic die making including die sets, punch presses, blanking dies, piercing dies, screw and dowell 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).
  - **Components:** Lecture
  - **Attributes:** Technical
CMM 210(3) Course ID:001822
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. Includes special projects in this course so the student will receive instruction in a specific area. Pre-requisite: (CMM 122 or CMM 124) with a grade of C or greater) or Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours/30:1 ratio).
Components: Laboratory, Lecture Attributes: Technical

CMM 212(3) Course ID:001823
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. Pre-requisite: (CMM 210 with a grade of C or greater) or Consent of Instructor. Lecture: 1.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

CMM 214(6) Course ID:001824
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. Pre-requisite: (CMM 122 or CMM 124) with a grade of C or greater) or Consent of Instructor. Lecture: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

CMM 218(8) Course ID:005530
Advanced Machining Techniques for Manufacturing
Allows for construction of sinker electrodes in the production of die and mold forms. Includes wire electrocdisharge machines (edm) machining of die sections, punch retainer, stripper plates, punch forms and use of cylindrical grinder ID and OD and angular grinding on die and mold components. Pre-requisite: CMM 216 with a grade of C or greater. Lecture: 2.0 credits (30 contact hours). Laboratory: 6.0 credits (180 contact hours).
Components: Laboratory, Lecture

CMM 220(4) Course ID:001825
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 grinding training. Colleges lacking this equipment can only present theory. KCTCS is presently trying to acquire EDM and cylindrical grinders.) Pre-requisite: (CMM 130 and CMM 132) or (CMM 134) or (CMM 212 or CMM 214) with a grade of C or greater) or Consent of Instructor. Laboratory: 4 credits (120 contact hours/30:1 ratio).
Components: Laboratory Attributes: Technical

CMM 222(2) Course ID:001826
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 grinding training. Those programs lacking this equipment can only present theory. KCTCS is presently trying to acquire EDM and cylindrical grinders. Pre-requisite: (CMM 221 or CMM 224 with a Grade of C or greater) or Consent of Instructor. Lab: 2.0 credits (60 contact hours/30:1 ratio).
Components: Laboratory Attributes: Technical

CMM 224(6) Course ID:001827
Advanced Industrial Machining
Designed to allow for the construction of electrodes and the production of parts by the use of an Electrical Discharge Machine (EDM), cylindrical grinder, and other type of grinders. **National Standards require EDM and cylindrical grinding training. Colleges lacking this equipment can only present theory. KCTCS is presently trying to acquire EDM and cylindrical grinders. Pre-requisite: (CMM 134 and

CMM 230(8) Course ID:001828
Instructor Consent Required
Conversational Programming
Introduces the student to conversational programming of CNC machine tools. Pre-requisite: Consent of Instructor. Lecture/Lab: 6.0 credits (150 contact hours).
Components: Lecture

CMM 230(4) Course ID:001829
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. Pre-requisite: ((CMM 130 and CMM 132) or (CMM 134 or CMM 138) with a grade of C or greater) or Consent of Instructor. Lecture: 2.0 credits (30 contact hours). Lab: 4.0 credits (120 contact hours or 180 clinical contact).
Components: Lecture

CMM 230(6) Course ID:001830
Cooperative Education Program
Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Practicum do not receive compensation.) Pre-requisite: Permission of the Instructor. Practicum: 1.0 credit (75 contact hours).
Components: Practicum Attributes: Technical

CMM 230(9) Course ID:001831
Instructor Consent Required
Cooperative Education Program
Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Practicum do not receive compensation.) Pre-requisite: Permission of Instructor. Co-Op: 1.0 credit (75 contact hours).
Components: Co-Op Attributes: Technical

CMM 2301(3) Course ID:005085
Introduction to Conversational Programming
Introduces students to conversational programming guidelines which will include program preparation, conversational input, and minor editing. Pre-requisite: Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Lecture

CMM 2302(3) Course ID:005086
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. Pre-requisite: CMM 2301 or Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Lecture

CMM 2401(3) Course ID:005087
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. Pre-requisite: (CMM 130 and CMM 132) or (CMM 134) with a grade of C or greater or Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Lecture

CMM 2402(3) Course ID:005088
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. 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. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Lecture

CMS Communications

CMS 105(3) Course ID:000292
Multimedia Production and Applications I
Students are introduced to the technologies and applications of multimedia systems including production, presentation, and transmission of video, voice, and data. Lecture: 2.0 credit hours; Laboratory: 2.0 credit hours.
Components: Laboratory, Lecture Attributes: Technical

CMS 141(1 - 4) Course ID:000294
Communications Practicum
Student works a minimum of two hours each week with the college radio station or TV station. Independent Study: 1 - 4 credits (15 - 60 contact hours).
Components: Independent Study

CMS 142(1 - 4) Course ID:000295
Communications Practicum
Student works a minimum of two hours each week with the college newspaper. Practicum: 1-4 credit hours (30-120 contact hours). Course may be repeated for a total of 4 credit hours.
Components: Practicum Attributes: Other

CMS 155(3) Course ID:006257
Introduction to Broadcasting
Introduces the history of the broadcast media in the United States and to current operating practices including Internet distribution. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Other

CMS 157(3) Course ID:000300
Basic Photography
Photographic techniques such as composition, lighting, exposure control, and skills needed by a photojournalist. Other topics may include using digital cameras, digital file formats, enhancing the digital image, and structuring the digital image. Lab component may include the use of a computer with photo imaging software and/or a darkroom using film cameras and enlargers. Lab: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture
COE Cooperative Education

COE 1991(1 - 8) Course ID:000309

Cooperative Education: (Associate in Applied Science Degree, Diplomas, and Certificate Programs)

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. 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 in enrolled, and minimum cumulative grade point average (GPA) of 2.0.

Components: Co-Dp
Attributes: Technical

COED Cooperative Education

COED 198(1 - 9) Course ID:005265

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.

Components: Practicum
Attributes: Technical

COED 199(3) Course ID:000203

Cooperative Education I

Cooperative education is a planned and evaluated work experience related to the students educational objective. The student receives both financial and remuneration and academic credit for this class. One credit hour is awarded for successful completion of 60 hours of approved work experience. Pre-requisite/Co-requisite: Permission of instructor.

Components: Co-Dp
Attributes: Technical

COM Communications

COM 101(3) Course ID:000310

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).

Components: Lecture
Attributes: SB - Social Behavior Science

COM 181(3) Course ID:000311

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. Pre-requisite: Current KCTCS placement scores for college level reading and writing, or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: OC - Oral Communication, Course Also Offered in Modules

COM 184(1) Course ID:000313

Intercollegiate Debating

Preparation for and participation in intercollegiate debating. May be repeated to a maximum of two credits. Lecture: 1 credit (15 contact hours).

Components: Lecture
Attributes: Other

COM 205(3) Course ID:016093

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 161 for Business transfer students. Pre-requisite: Current KCTCS placement scores for College level reading and writing, or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: OC - Oral Communication

COM 249(3) Course ID:000314

Mass Media Communication

Examines mass media messages, audiences, technologies, and regulations in a global society. Pre-requisite: Current KCTCS placement scores for College level reading and writing, or Consent of Instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Course Equivalents: SOC 249
Attributes: SB - Social Behavior Science

COM 252(3) Course ID:000315

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 Co-requisite: Current KCTCS placement scores for college level reading and writing, or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: OC - Oral Communication, Course Also Offered in Modules

COM 254(3) Course ID:004552

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. Pre-requisite or Co-requisite: Current KCTCS placement scores for college level reading and writing, or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

COM 281(3) Course ID:000316

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 an active group performance. Pre-requisite Or Co-requisite: Current KCTCS placement scores for college level reading and writing, or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: OC - Oral Communication

COM 284(1) Course ID:002198

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).

Components: Lecture
Attributes: Other

COM 287(3) Course ID:000317

Persuasive Speaking

Examines the processes involved in attitude change, with emphasis on the preparation and delivery of persuasive messages. Pre-requisite: COM 181. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: OC - Oral Communication

COM 299(3) Course ID:004257

Special Topics in Communication

A sophomore level study of a selected topic in communication. Pre-requisite: COM 181 or COM 252 or consent of instructor. Lecture: 3.0 credit hours.

Components: Lecture
Attributes: Other

COM 1811(1) Course ID:015806

Public Speaking Essentials

Applies the basic principles and techniques in research, organization and delivery of speeches appropriate to the purpose, occasion, and audience. Pre-requisite: Current KCTCS placement scores for college level reading and writing OR Consent of Instructor. Lecture: 1.0 credit (15.0 contact hours).

Components: Lecture

COM 1812(1) Course ID:015807

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. Pre-requisite: COM 1811. Lecture: 1.0 credit (15.0 contact hours).

Components: Lecture

COM 1813(1) Course ID:016231

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. Pre-requisite: COM 1812. Lecture: 1.0 credit (15.0 contact hours).

Components: Lecture

COM 2051(1) Course ID:016232

Communication In A Job Search

Provides experience in communication developing communication skills for use in technology-based job exploration with an emphasis on ethics, interviewing, active listening, and verbal and nonverbal communication for use in culturally diverse business and professional settings. Pre-requisite: COM 2051. Lecture: 1 credit (15 contact hours).

Components: Lecture

COM 2052(1) Course ID:016233

Communication In Organizations

Provides experience in developing communication competence in leadership roles, conflict management, and effective, informative, and persuasive communication skills for use in culturally diverse business and professional settings. Pre-requisite: COM 2052. Lecture: 1 credit (15 contact hours).

Components: Lecture

COM 2521(1) Course ID:005800

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 Co-requisite: Current KCTCS placement scores for college level reading and writing, or consent of instructor. Lecture: 1.0 credit (15 contact hours).

Components: Lecture
COS 107(14) Course ID:017362
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).
Components: Laboratory, Lecture
Attributes: Technical

COS 106(6) Course ID:017165
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. Pre-requisite: High school diploma or equivalent. Lecture: 6 credit hours (90 contact hours).
Components: Lecture
Attributes: Technical

COS 109(6) Course ID:017166
Cosmetology I Practical Application
Demonstrates hair, nail and skin care services utilizing safety precautions, sanitation and infection control procedures. Pre-requisite: High school diploma or equivalent. Co-requisite: COS 108. Laboratory: 6 credit hours (270 contact hours).
Components: Laboratory
Attributes: Technical

COS 114(14) Course ID:001213
Cosmetology I, 6-1
This course is designed 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).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

COS 116(14) Course ID:001214
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).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

COS 117(14) Course ID:017365
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. Pre-requisite: COS 107. Lecture: 3 credits (45 contact hours). Laboratory: 11 credits (330 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

COS 118(5) Course ID:017167
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. Pre-requisite: Successful completion of COS 114 or COS 108 & COS 109. Lecture: 5 credit hours (75 contact hours).
Components: Lecture
Attributes: Technical

COS 119(7) Course ID:017168
Cosmetology II Practical Application
Apply the chemical application techniques to skin, hair (natural and artificial) and nails. Pre-requisite: Successful completion COS 114 or COS 108 & COS 109. Lecture: 7 credit hours (315 contact hours).
Components: Laboratory
Attributes: Technical

COS 135(1 - 8) Course ID:001223
Instructor Consent Required
Individual Requirements I
Provides additional lecture/laboratory time to meet licensure requirements of 1800 hour clock hours. Pre-requisite: Consent of Instructor. Lecture: 1.0 - 8.0 credit hours (15 -120 contact hours). Laboratory: 1.0 - 8.0 credit hours (30 - 240 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

COS 136(13) Course ID:017367
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).
Components: Laboratory, Lecture
Attributes: Technical

COS 138(8) Course ID:017564
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).
Components: Laboratory, Lecture
Attributes: Technical

COS 139(9) Course ID:017565
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).
Components: Laboratory, Lecture
Attributes: Technical

COS 146(13) Course ID:017368
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. Pre-requisite: COS 136 or Instructor permission. Lecture: 7 credits (105 contact hours). Laboratory: 6 credits (270 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

COS 147(15) Course ID:017563
Nail Technology
Provides knowledge of the art and science of nail technology. Applies 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).
Components: Laboratory, Lecture
Attributes: Technical

COS 170(17) Course ID:017562
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. Pre-requisite: Cosmetologist’s license, one year work experience, and Apprentice Cosmetologists’ Instructor’s License. Lecture: 8 credits (120 contact hours). Laboratory: 4 credits (180 contact hours). Practicum: 5 credits (450 contact hours).
Components: Laboratory, Lecture, Practicum
Attributes: Technical

COS 216(20) Course ID:015567
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. Pre-requisite: Cosmetologist’s License, one year work experience, and Apprentice Cosmetologists Instructor’s License. Lecture: 6.0 credits (90 contact hours). Lab: 14.0 credits (420 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
COS 217(20) Course ID:015568
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 methods used to teach the practical application of skills. Provides preparatory work to prepare the apprentice instructor for the Kentucky Board of Hairdressers and Cosmetologist's instructor examination. Pre-requisite: COS 216. Lecture: 6.0 credits (90 contact hours). Lab: 14.0 contact hours (420 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

COS 218(14) Course ID:001215
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).

Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules, Technical

COS 220(12) Course ID:001216
Cosmetology IV, 6-4
This course is designed for 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 judgement of procedures and solutions to be used on clients with supervision. Lecture/Laboratory: 14 credits (450 contact hours).

Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules, Technical

COS 222(6) Course ID:017092
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 judgement of procedures and solutions to be used on clients with supervision. Pre-requisite: COS 114, 116, 218 or consent of instructor. Lecture: 4 credit hours (60 contact hours) Lab: 2 credit hours (90 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

COS 228(5) Course ID:017169
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. Pre-requisite: Successful completion of COS 116 or COS 118 & COS 119. Lecture: 5 credit hours (75 contact hours).

Components: Lecture
Attributes: Technical

COS 229(7) Course ID:017170
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. Pre-requisite: Successful completion of COS 116 or COS 118 & COS 119. Co-requisite: COS 229. Laboratory: 7 contact hours (315 contact hours).

Components: Laboratory
Attributes: Technical

COS 235(1 - 8) Course ID:004413
Instructor Consent Required
Individual Requirements II
Provides additional lecture/laboratory time to meet licensure requirements of 1800 clock hours. Pre-requisite: Consent of Instructor. Lecture/Lab: 1.0 - 8.0 contact hours (15 - 120 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

COS 238(6) Course ID:017171
Cosmetology IV Theory
Recall the comprehensive written exam in preparation for the Kentucky Board Licensure exam. Pre-requisite: Successful completion of COS 218 or COS 228 & COS 229. Lecture: 6 credit hours (90 contact hours).

Components: Lecture
Attributes: Technical

COS 239(6) Course ID:017172
Cosmetology IV Practical Application
Demonstrate the comprehensive practical exam in preparation for Kentucky Board Licensure exam. Pre-requisite: Successful completion of COS 218 or COS 228 & COS 229. Co-requisite: COS 238. Laboratory: 6 credit hour (270 contact hours).

Components: Laboratory
Attributes: Technical

COS 1141(3) Course ID:004994
Introduction to Cosmetology
An introduction to professionalism and communication. Topics include Kentucky Statutes and Regulations, safety and decontamination. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Lecture

COS 1142(3) Course ID:004995
Basics of Cosmetology
Provides fundamental principles and skills of manicures, pedicures, facials, and scalp and hair care. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Lecture

COS 1143(3) Course ID:004996
Principles of Hair Design
Provides design elements and principles of hairstyling. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory

COS 1144(1) Course ID:004997
Cosmetology Skills A
Focus on developing design elements of hair. Laboratory: 1 credit (45 contact hours).

Components: Laboratory

COS 1145(1) Course ID:004998
Hair Structure, Disorders and Diseases
Focuses on the structure, diseases, and disorders of hair. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 1146(1) Course ID:004999
Cosmetology Skills B
Provides basic principles of hair design and safety. Laboratory: 1 credit (45 contact hours).

Components: Laboratory

COS 1147(1) Course ID:005000
Nail Structure: Diseases and Disorders
Focuses on nail structure, diseases and disorders. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 1148(1) Course ID:005001
Skin: Structure, Disorders and Diseases
Focuses on skin structure, diseases and disorders. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 1161(3) Course ID:005002
Introduction to Cosmetic Chemistry
Basic study of cosmetic chemistry. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory, Lecture

COS 1162(3) Course ID:005003
Chemical Services
Basic chemical services. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory, Lecture

COS 1163(3) Course ID:005004
Massage Techniques
Study of massage techniques. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory, Lecture

COS 1164(1) Course ID:005005
Cosmetic Techniques Lab
Provides an opportunity to apply chemical services. Focuses on perms, color application and straightening of hair. Laboratory: 1 credit (45 contact hours).

Components: Laboratory

COS 1165(1) Course ID:005006
Electricity & Light Therapy for Cosmetology
Study of electricity and light therapy. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 1166(1) Course ID:005007
Intermediate Hair Design Lab
Continues the application of hair design theory and skills. Laboratory: 1 credit (45 contact hours).

Components: Laboratory

COS 1167(1) Course ID:005008
Facials
Theory of facials. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 1168(1) Course ID:005009
Makeup and Hair Removal
Provides the theoretical base for application of makeup. Hair removal principles and techniques. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 2181(3) Course ID:005010
Anatomy for Cosmetology I
Study of the structures and functions of the human body. Application of these studies in cosmetology services. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory, Lecture

COS 2182(3) Course ID:005011
Anatomy for Cosmetology II
Study of the interaction of all body systems and the maintenance of homeostasis. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory, Lecture

COS 2183(3) Course ID:005012
Salon Management
The study and application of all phases of salon management. Lecture: 1 credit (15 contact hours); Laboratory: 2 credits (90 contact hours).

Components: Laboratory, Lecture

COS 2184(1) Course ID:005013
Intermediate Chemical Services Lab
The study of the interaction of all the body systems in maintaining homeostasis. Application of these studies in cosmetology services. Pre-requisite: ((COS 1161 and COS 1162 and COS 1163 and COS 1164 and COS 1165 and COS 1166 and COS 1167 and COS 1168) or COS 116 with a grade of C or greater). Laboratory: 1 credit (45 contact hours).

Components: Laboratory

COS 2185(1) Course ID:005014
Hair Enhancements
Study of artificial hair. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 2186(1) Course ID:005015
Client Services Lab
Provides the student with the opportunity to demonstrate client services. Emphasis is on communication and positive public relation techniques. Laboratory: 1 credit (45 contact hours).

Components: Laboratory

COS 2187(1) Course ID:005016
Intermediate Hair Shaping
Hair shaping techniques for the intermediate practitioner. Lecture: 1 credit (15 contact hours).

Components: Lecture

COS 2188(1) Course ID:005017
Cosmetology Trends and Issues
Trends and issues of cosmetology are covered. Lecture: 1 credit (15 contact hours).

Components: Lecture

257
CPR Cardiopulmonary Resuscitation

CPR 100(1) Course ID:001239

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).

Components: Lecture
Attributes: Technical

CRA Building Controls Tech

CRA 230(5) Course ID:016091

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. 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. Lecture/Lab: 5.0 credits (105 contact hours).

Components: Lecture
Attributes: Technical

CRA 232(5) Course ID:016092

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. Pre-requisite: CRA 230 or content of instructor. Lecture/Lab: 5.0 credits (105 contact hours).

Components: Lecture
Attributes: Technical

CRI Criminal Justice

CRI 100(3) Course ID:004191

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 102(3) Course ID:004192

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 107(1) Course ID:004194

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 1.0 credit (15 contact hours).

Components: Lecture
Attributes: Technical

CRI 108(4) Course ID:007357

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 pistols, shotguns, rifles, and less than lethal weapons. Pre-requisite: CRI 107 and (Current placement scores for RDG 030 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

CRI 110(3) Course ID:004195

Principles of Asset Protection
Provides an introductory understanding of private security procedures. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 201(3) Course ID:000899

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 202(3) Course ID:004196

Issues and Ethics in Criminal Justice
Provides an understanding of the issues and ethical dilemmas confronting practitioners within the criminal justice system. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 203(3) Course ID:004197

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 204(3) Course ID:004198

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 208(3) Course ID:004199

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 210(3) Course ID:004200

Physical Security Technology & Systems
Introduces facility security with the use of environmental design and integrated electronic technology (cameras, monitors, and alarms). Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 211(3) Course ID:004201

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090) and (CRI 100 or Consent of Instructor). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 215(3) Course ID:004202

Introduction to Law Enforcement
Provides an introduction to the study of law enforcement. Introduces the historical developments of law enforcement, police operations and programs. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 216(3) Course ID:004203

Criminal Law
Provides an overview of the definitions and functional components of criminal law in the field of criminal justice. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

CRI 217(3) Course ID:004204

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

Same As Offering: CRI 217

CRI 217(3) Course ID:004204

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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

Same As Offering: CRI 217

Attributes: Technical
CRI 218(3) Course ID:004193
Police Supervision
Provides an overview of the administrative, supervisory, and leadership roles that are required within a law enforcement agency. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090) AND CRJ 100 or CRJ 215 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 219(4) Course ID:007358
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. Pre-requisite: CRJ 215 and (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090) AND CRJ 100 or CRJ 215 or Consent of Instructor. Lecture: 3.0 contact hours.
Components: Laboratory, Lecture Attributes: Technical

CRI 220(3) Course ID:005220
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. 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 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 222(3) Course ID:004205
Prison & 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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 224(4) Course ID:007359
Basic Traffic Collision Investigation
Introduces basic vehicle collision investigation, from a law enforcement perspective, and entails evidence and investigation techniques and mathematical calculations. Pre-requisite: CRJ 204 and MAT 110 and (Current placement scores for RDG 030 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 2.0 credits (30 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture Attributes: Technical

CRI 225(4) Course ID:007360
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. Pre-requisite: CRJ 215 and (Current placement scores for RDG 030 or higher or completion of RDG 020) and (Current placement for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

CRI 228(3) Course ID:017566
Unmanned CRI Technology Applications
Examines the use of advanced technologies used in the field of criminal justice. Discusses 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).
Components: Lecture Attributes: Technical

CRI 230(3) Course ID:006233
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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 231(3) Course ID:006234
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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 235(3) Course ID:017567
Serial Killers
Examines 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).
Components: Lecture Attributes: Technical

CRI 240(3) Course ID:006102
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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 245(3) Course ID:006232
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 detecting, identifying, and investigating business and industrial fraud. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 255(3) Course ID:017568
Correctional Intervention Strategies
Examines 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).
Components: Lecture Attributes: Technical

CRI 277(3) Course ID:006804
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. Pre-requisite: If yes, list: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 278(3) Course ID:017569
Victimology
Examines 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).
Components: Lecture Attributes: Technical

CRI 279(3) Course ID:005781
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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

CRI 280(3) Course ID:017570
Drugs, Crime, and Society
Examines 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).
Components: Lecture Attributes: Technical

CRI 290(3) Course ID:004206
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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 090) AND Sophomore Standing and completion of at least 12 semester hours of Criminal Justice work. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

259
CRT 295(1) Course ID:015650

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. Pre-requisite: (CRJ 100 and CRJ 202 and CRJ 204 and CRJ 216 and CRJ 217) AND/OR consent of Program Coordinator. Lecture: 1.0 credit (15 contact hours).

Components: Lecture Attributes: Technical

CRT 296(3) Course ID:016926

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. Pre-requisite: CRJ 100, PSY 110. Lecture: 3.0 credits (45 contact hours).

Components: Lecture Attributes: Technical

CRT 299(1 - 3) Course ID:004207

Instructor Consent Required
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. Pre-requisite: (Current placement scores for RDG 30 or higher or completion of RDG 020) and (Current placement scores for ENC 091 or higher or completion of ENC 060). Lecture: 1.0 - 3.0 credits (15 - 45 contact hours).

Components: Lecture Attributes: Technical

CRT 100(2) Course ID:000928

Introduction to Collision Repair
Introduces the student to safely, 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).

Components: Lecture Attributes: Technical

CRT 130(6) Course ID:000929

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 demonstration and lectures. Includes instruction on how to repair plastic, fiberglass, SMC and flexible automobile parts. Lecture: 6.0 credits (90 contact hours).

Components: Lecture Attributes: Technical

CRT 131(6) Course ID:002345

Non-Structural Analysis and Damage Repair Lab
Provides practical experience in the replacement and alignment of bolts, vehicle 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 Co-requisite: CRT 130. Lab: 6.0 credits (180 - 270 contact hours).

Components: Laboratory Attributes: Technical

CRT 150(6) Course ID:000931

Painting and Refinishing
Provides instruction in the use of lacquer, acrylic enamel and basecoat/clearcoat refinishing products, masking procedures, preparations and paint problems. Lecture: 6.0 credits (90 contact hours).

Components: Lecture Attributes: Technical

CRT 151(6) Course ID:000932

Painting and Refinishing Lab
Provides instruction in the use of lacquer, acrylic enamel and basecoat/clearcoat 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 Co-requisite: CRT 150. Lab: 6.0 credits (180 - 270 contact hours).

Components: Laboratory Attributes: Technical

CRT 159(1 - 8) Course ID:000934

Instructor Consent Required
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.) Pre-requisite: Consent of Instructor. Practicum: 1.0 - 8.0 credit hours.

Components: Practicum Attributes: Technical

CRT 199(1 - 8) Course ID:000933

Instructor Consent Required
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.) Pre-requisite: Consent of Instructor. Co-Op: 1.0 - 8.0 credit hours.

Components: Co-Op Attributes: Technical

CRT 230(6) Course ID:000936

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).

Components: Lecture Attributes: Technical

CRT 231(6) Course ID:000937

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 Co-requisite: CRT 230. Lab: 6.0 credits (180 - 270 contact hours).

Components: Laboratory Attributes: Technical

CRT 250(6) Course ID:000938

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).

Components: Lecture Attributes: Technical

CRT 251(6) Course ID:000939

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. Includes live work on automobiles. Pre-requisite Or Co-requisite: CRT 250. Lab: 6.0 credits (180 - 270 contact hours).

Components: Laboratory Attributes: Technical

CRT 291(1) Course ID:000940

Special Projects I
Designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area. Pre-requisite: Consent of Instructor. Lab: 1.0 credit (45 contact hours).

Components: Laboratory Attributes: Technical

CRT 293(2) Course ID:000941

Special Projects II
Designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area. Pre-requisite: Consent of Instructor. Lab: 2.0 credits (90 contact hours).

Components: Laboratory Attributes: Technical

CRT 295(3) Course ID:000942

Special Projects III
Designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area. Pre-requisite: Consent of Instructor. Lab: 3.0 credits (135 contact hours).

Components: Laboratory Attributes: Technical

CRT 298(2) Course ID:000943

Instructor Consent Required
Advanced Practicum
Provides supervised on-the-job work experience related to the students’ education objectives. (Students participating in the practicum do not receive compensation.) Pre-requisite: Consent of Instructor. Independent Study: 2.0 credits (150 contact hours).

Components: Independent Study Attributes: Technical

CS 115(3) Course ID:000321

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).

Components: Lecture Attributes: University Course (University of Kentucky)

CS 215(4) Course ID:007198

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. Pre-requisites: CS 115, 221 or equivalent. Lecture: 4.0 credits (60 contact hours).

Components: Lecture Attributes: University Course (University of Kentucky)

CS 216(3) Course ID:007199

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. Pre-requisites: CS215. Lecture: 3.0 credits (45 contact hours).

Components: Lecture Attributes: University Course (University of Kentucky)
CS 221(2) Course ID:00235
First Course in Computer Science for Engineers
Characteristics of a procedure-oriented language; description of a computer as to internal structure and the representation of information; introduction to algorithms. Emphasis will be placed on the solution of characteristic problems arising in engineering. Pre-requisite: Not open for students who have received credit for CS115. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: University Course (University of Kentucky)

CS 270(3) Course ID:010097
Systems Programming
This course provides an introduction to computer systems and explores computer architecture, operating systems, and networks from a programmer's perspective. The course also introduces advanced programming and debugging tools. Topics include hardware instruction sets, machine language and C language program representations, linking/loading, operating systems (process management, scheduling, memory management, interprocess communication, and file systems), network programming (socket programming and web protocols), and common security attacks and solutions. Pre-requisites: EE280 and CS216. Lecture: 3.0 credits (45 contact hours)
Components: Lecture
Attributes: University Course (University of Kentucky)

CS 275(4) Course ID:007200
Discrete Mathematics
Components: Lecture
Attributes: University Course (University of Kentucky)

CUL 100(2) Course ID:004209
Introduction to Culinary Arts
Provides an introduction to several aspects of the food industry. Introduces proper terminology for various types of equipment and cooking methods. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

CUL 105(2) Course ID:004210
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).
Components: Laboratory, Lecture
Attributes: Technical

CUL 125(2) Course ID:004212
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)
Components: Lecture
Attributes: Technical

CUL 211(4) Course ID:004213
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. Pre-requisite or Co-requisite: CUL 100 and CUL 125 or consent of instructor. Lecture/Lab: 4 credits (90 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CUL 215(4) Course ID:004214
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. Pre-requisite or Co-requisite: CUL 100 and CUL 125 or consent of instructor. Lecture: 2.0 credits (30 contact hours), Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CUL 220(4) Course ID:004215
Advanced Baking & Pastry Arts
Applies fundamentals of baking science to the preparation of a variety of baked products including shadows, frosted desserts, and creams, custards, and related sauces. Emphasis will be placed on nutritional aspects of baked products and finishing techniques. Pre-requisite: CUL 215. Lecture: 2.0 credits (30 contact hours), Lab: 2.0 credits (60 contact hours) .
Components: Laboratory, Lecture
Attributes: Technical

CUL 225(4) Course ID:005137
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. Pre-requisite: CUL 215. Lecture: 2 credits (30 contact hours); Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CUL 230(3) Course ID:004216
Basic Nutrition
Describes 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 for specialty diets. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CUL 235(3) Course ID:017086
Farm to Table
Introduces local, seasonal, and sustainable cooking emphasized through the management of farm, 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 credits (30 contact hours) Lab: 2 credits (60 contact hours)
Components: Laboratory, Lecture
Attributes: Technical

CUL 240(4) Course ID:004217
Meats, Seafood, & Poultry
This course focuses on the identification of various cooking techniques for and the preparation of meats, seafood, and poultry. Pre-requisite: CUL 100 and CUL 125. Pre-requisite or Co-requisite: CUL 211 or consent of the instructor. Lecture/Lab: 4.0 credits (90 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CUL 250(4) Course ID:004211
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. Pre-requisite: CUL 211 AND CUL 215 or Consent of instructor. Lecture/Lab: 4 credits (90 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CUL 260(4) Course ID:004218
International & Classical Cuisine
This course focuses on the study and preparation of international and classical cuisine. Pre-requisite: CUL 100 and CUL 125. Co-requisite: CUL 211, CUL 215 and CUL 240 or consent of instructor. Lecture/Lab: 4.0 credits (90 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

CUL 270(3) Course ID:004219
Human Relations Management
This course provides information necessary for the transition from student to a supervisory role in the Food and Beverage industry. Styles of leadership and skill development in human relations and personnel management are also covered. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CUL 280(3) Course ID:004221
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. Pre-requisite: A mathematics placement score above the score range for MAT 065 or successful completion of the prescribed developmental course(s) or consent of the instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CUL 285(3) Course ID:004222
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).
Components: Lecture
Attributes: Technical

CUL 290(4) Course ID:004223
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. Pre-requisite: (CUL 211, CUL 215, and CUL 240) or Consent of Instructor. Lecture/Laboratory: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

CUL 295(3) Course ID:005138
Doing Business as a Personal Chef
A general overview of the business aspects of starting and operating a personal chef service. Pre-requisite: All Technical Core Courses as outlined in the current Culinary Arts Curriculum. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

CUL 297(1 - 6) Course ID:004224
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.
Components: Laboratory, Lecture
Attributes: Technical

CUL 298(2 - 3) Course ID:004225
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. Pre-requisite: Consent of instructor. Practicum: 2.0 - 3.0 credits (120-180 contact hours).
Components: Practicum
Attributes: Technical
CUL 299(2 - 3) Course ID: 004226
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. Pre-requisite: Consent of instructor.
Practicum: 2.0 - 3.0 credits (120 - 180 contact hours).
Components: Practicum
Attributes: Technical

CUL 1001(1) Course ID: 016347
Culinary Industry Trends
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.
Lecture: 1 credit (15 contact hours).
Components: Lecture

CUL 1002(1) Course ID: 016348
Culinary Arts Terminology
Provides an introduction to several aspects of the food
industry. Introduces proper terminology for various types
of equipment and cooking methods. Pre-requisite: CUL 1001.
Lecture: 1 credit (15 contact hours).
Components: Lecture

CUL 1251(1) Course ID: 016349
Food Handling Practices
Reinforce personal hygiene habits and food handling
practices that protect the health of the consumer. Lecture:
1 credit (15 contact hours).
Components: Lecture

CUL 1252(1) Course ID: 016350
Food Service Sanitation/Safety
Develops an understanding of the basic principles of
sanitation and safety and applies them in the food service
operations. Pre-requisite: CUL 1251. Lecture: 1 credit
(15 contact hours).
Components: Lecture

CUL 2301(1) Course ID: 016351
Food and Nutrient Sources
Describes the characteristics, functions, and food sources
of the major nutrients. Lecture: 1 credit (15 contact hours).
Components: Lecture

CUL 2302(1) Course ID: 016352
Menu Planning and Preparation
Describes how to maximize nutrient retention in food
preparation and storage. Pre-requisite: CUL 2301. Lecture:
1 credit (15 contact hours).
Components: Lecture

CUL 2303(1) Course ID: 016353
Menus for Specialty Diets
Applies the principles of nutrient needs throughout the life
cycle through menu planning and preparation for specialty
diets. Pre-requisite: CUL 2302. Lecture: 1 credit (15
contact hours).
Components: Lecture

CUL 2801(1) Course ID: 016354
Food Service Operating Cost
Provides students with the opportunity to perform business
and math skills using mathematical functions related to
food service operations in the area of cost. Pre-requisite:
CUL 2801. Lecture: 1 credit (15 contact hours).
Components: Lecture

CUL 2802(1) Course ID: 016355
Food Service Control Costs
Provides students with the opportunity to perform business
and math skills using mathematical functions related to
food service operations in the area of control. Pre-requisite:
CUL 2801. Lecture: 1 credit (15 contact hours).
Components: Lecture

CUL 2803(1) Course ID: 016356
Food Service Financial Aspects
Provides students with the opportunity to perform business
and math skills using mathematical functions related to
food service operations in the areas of purchasing and
receiving. Pre-requisite: CUL 2802. Lecture: 1 credit (15
contact hours).
Components: Lecture

DAH Dental Hygiene

DAH 101(2) Course ID: 000330
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.
Pre-requisite: Admission into the Integrated Dental
Assisting or Dental Hygiene Program. Lecture: 1.5 credits
(22.5 contact hours). Lab: 0.5 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 121(3) Course ID: 000333
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.
Pre-requisite: Admission into the Integrated Dental Assisting
or Dental Hygiene Program. Lecture: 3.0 credits (45 contact
hours).
Components: Lecture
Attributes: Technical

DAH 124(2) Course ID: 000335
Materials in Dentistry
Examines the physical and chemical properties of
dental materials with an emphasis on composition and
application. Pre-requisite: Admission into the Integrated
Dental Assisting or Dental Hygiene Program. Lecture: 1.5
credits (22.5 contact hours). Lab: 0.5 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 131(3) Course ID: 004337
Oral Pathology
Introduces the disciplines of general pathology and oral
pathology as related to dental auxiliary function.
Pre-requisite: Dental Assisting: Minimum grade of "C" in DAH
101, DAH 121, DAH 124, DAH 135, DAH 125, and DAH
130; Dental Hygiene: Minimum grade of "C" in DAH 101,
DAH 121, DAH 124, DAH 135, and DHG 120. Lecture: 3.0
credits (45 contact hours).
Components: Lecture
Attributes: Technical

DAH 135(2) Course ID: 000334
Oral Radiology
Examines theory and clinical practice of oral radiographic
methods. Presents history and development of x-ray,
characteristics, and uses of x-ray; radiation hygiene;
exposing, processing and mounting of intraoral and
extral oral films; and identification of radiographic anatomic
landmarks. Pre-requisite: Admission into the Integrated
Dental Assisting or Dental Hygiene Program. Lecture: 1.5
credits (22.5 contact hours). Lab: 0.5 credits (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 235(1) Course ID: 000336
Practice Management
Examines legal, ethical, and managerial aspects of the
dental practice. Pre-requisite: Dental Assisting: Minimum
grade of "C" in DAH 101, DAH 121, DAH 124, DAH 135, DAH
125 and DAH 130; Dental Hygiene: Minimum grade of
"C" in DHG 220 and DHG 226. Lecture: 1.0 credit (15
contact hours).
Components: Lecture
Attributes: Technical

DAH 125(6) Course ID: 015651
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
certification. Pre-requisite: Admission into the Dental
Assisting Integrated program. Lecture: 2.0 (30 contact
hours). Lab: 4.0 credits (120 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 130(2) Course ID: 006812
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. Pre-requisite: Admission
into the Dental Assisting Integrated program. Lecture:
1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 225(2) Course ID: 015652
Dental Assisting II
Continues DAS 120 concepts. Introduces student to
remaining dental specialties and expanded dental assisting
functions. Pre-requisite: Dental Assisting: Minimum grade
of "C" in DAH 101, DAH 121, DAH 124, DAH 135, DAH
125, and DAH 130. Lecture: 1.0 credit (15 contact hours).
Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 230(1) Course ID: 006813
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. Pre-requisite: Minimum
grade of "C" in DAH 101, DAH 121, DAH 124, DAH 135,
DAH 125, and DAH 130. Lecture: 1.0 credit hour (15
contact hours).
Components: Lecture
Attributes: Technical

DAH 245(2) Course ID: 015653
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.
Pre-requisite: Dental Assisting: Minimum grade of "C" in DAH
101, DAH 121, DAH 124, DAH 135, DAH 125, and DAH
130. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit
(30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DAH 250(5) Course ID: 015654
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. Pre-requisite: Dental
Assisting: Minimum grade of "C" in DAH 101, DAH 121,
DAH 124, DAH 135, DAH 125, and DAH 130. Practicum:
5.0 credits (320 contact hours).
Components: Practicum
Attributes: Technical
DHG 120(3) Course ID:000337
Dental Hygiene I
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. Pre-requisite: Admission into the Dental Hygiene Integrated Program. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (120 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DHG 130(3) Course ID:000338
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. Pre-requisite: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120. Lecture: 1.5 credits (22.5 contact hours). Lab: 0.5 credits (60 contact hours). Clinical: 1.0 credit (120 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

DHG 132(2) Course ID:004331
Pharmacology
Examines the disciplines of pharmacology and therapeutics as related to dental hygiene. Pre-requisite: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

DHG 134(2) Course ID:008611
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. Pre-requisite: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

DHG 136(1) Course ID:000340
Periodontology
Focuses on the clinical, histological, and radiographic differences between healthy and unhealthy periodontal tissues. Pre-requisite: Minimum grade of C in DAH 101, DAH 121, DAH 124, DAH 135, and DHG 120. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical

DHG 220(4) Course ID:000341
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. Pre-requisite: Minimum grade of C in DAH 131, DHG 130, DHG 132, DHG 134, and DHG 136. Lecture: 2.0 credits (30 contact hours). Clinical: 2.0 credits (240 contact hours).
Components: Lecture
Attributes: Technical

DHG 221(2) Course ID:004778
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. 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. Lecture: 1.25 credit (19 contact hours). Lab: 0.75 credit (26 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DHG 226(2) Course ID:000342
Advanced Periodontology
Focuses on the role of the dental hygienist in the prevention, diagnosis and treatment of periodontal diseases. Pre-requisite: Minimum grade of C in DAH 131, DHG 130, DHG 132, DHG 134, and DHG 136. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

DHG 228(1) Course ID:017676
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. 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. Lecture: 1.0 credits (15 contact hours).
Components: Lecture
Attributes: Technical

DHG 230(3) Course ID:000343
Clinical Dental Hygiene III
Focuses on mastery of dental hygiene clinical skills for patient care and preparation for written and clinical board examinations. Pre-requisite: Minimum grade of C in DHG 220 and DHG 226. Lecture: 1.0 credit (15 contact hours). Clinical: 2.0 credits (240 contact hours).
Components: Lecture
Attributes: Technical

DHG 238(2) Course ID:000344
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. Pre-requisite: Minimum grade of C in DAH 220 and DHG 226. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

DHP 120(4) Course ID:004859
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. Pre-requisite: Acceptance into the Dental Hygiene Program; Computer Literacy or equivalency; and CPR certification. 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).
Components: Clinical, Lecture
Attributes: Technical

DHP 122(2) Course ID:006832
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. Pre-requisite: Minimum grade of C in DAH 220 and DHP 122. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

DHP 123(2) Course ID:017369
Oral Biology
Focuses on oral histology and embryology, head and neck anatomy, and dental morphology applicable to the practice of dental hygiene. Pre-requisite: Acceptance into Dental Hygiene Program; digital literacy is defined by KCTCS or equivalent; and CPR certification. BIO 137 and BIO 139 or equivalent, both with a minimum grade of C. Integrated Lecture: 1.0 credit (15 contact hours). Integrated Lab: 1.0 credit (45 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

DHP 124(2) Course ID:017370
Materials in Dentistry
Examines the physical and chemical properties of dental materials with an emphasis on composition and application. Pre-requisite: Acceptance into the Dental Hygiene Program; digital literacy as defined by KCTCS or equivalent; and CPR certification. 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).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

DHP 130(3) Course ID:004861
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. 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. Lecture: 2.0 credits (30 contact hours). Clinical: 1.0 credit (120 contact hours).
Components: Clinical, Lecture
Attributes: Technical

DHP 132(4) Course ID:017371
Oral Pathology and Pharmacology
Covers the disciplines of general pathology, oral pathology, pharmacology, and therapeutics as related to dental hygiene care. 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. Integrated Lecture: 2.5 credits (37.5 contact hours). Integrated Lab: 1.5 credits (67.5 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

DHP 135(3) Course ID:004863
Dental Radiology
Introduces theory and clinical practice of oral radiography. Presents the history, development, properties and uses of x-ray. Emphasizes radiation hygiene and safety. Covers digital technology and all types of radiographic systems. Introduces radiographic anatomical landmarks and pathology seen on radiographs. 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. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DHP 136(2) Course ID:004864
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. 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. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

DHP 220(3) Course ID:004865
Dental Hygiene III
Covers the disciplines of general pathology, oral pathology, pharmacology, and therapeutics as related to dental hygiene care. 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. Lecture: 2.5 credits (37.5 contact hours). Lecture: 1.0 credit (15 contact hours).
Components: Clinical, Lecture
Attributes: Technical

DHP 222(3) Course ID:005040
Special Needs Patients
Focuses on the special dental 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. Pre-requisite: DHP 130, DHP 132, DHP 135, and DHP 136 all with a minimum grade of C. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
DTP 105(1) Course ID:006815
Mechanical Principles
Provides opportunities to practice hands on skills of measuring with precision measurement tools such as micrometers, dial indicator and 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).
Components: Lecture Attributes: Technical

DTP 110(3) Course ID:001274
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. Co-requisite: DTP 111. Lecture: 3 credits (45 contact hours).
Components: Laboratory Attributes: Technical

DTP 111(2) Course ID:001275
Introduction To Diesel Engines Lab
Includes the hands-on concepts covered in DTP 110. Covers the inspection, diagnosis and repair strategies for the basic repair of internal combustion diesel engines. Co-requisite: DTP 110. Laboratory: 2 credits (90 contact hours).
Components: Laboratory Attributes: Technical

DTP 112(3) Course ID:001276
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, and engine lubrication systems. Pre-requisite: DTP 110 or ADX 150. Co-requisite: DTP 113. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

DTP 113(2) Course ID:001277
Diesel Engine Repair Lab
Includes the hands-on concepts covered in DTP 112. Covers the inspection, diagnosis and repair strategies of internal combustion late model diesel engines. Pre-requisite: DTP 111 or ADX 151. Co-requisite: DTP 112. Laboratory: 2 credits (30 contact hours).
Components: Laboratory Attributes: Technical

DTP 120(3) Course ID:001278
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).
Components: Lecture Attributes: Technical

DTP 121(3) Course ID:001279
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).
Components: Laboratory Attributes: Technical

DTP 122(3) Course ID:001280
Undercurriage
Students learn the theory and operation of undercurriage systems and their components. These components include endless track, roller track, roller frames, idlers, roller supports, and mainframes. Co-requisite: DTP 123. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

DTP 123(3) Course ID:001281
Undercurriage Lab
Provides opportunities to troubleshoot and repair some parts of undercurriage 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).
Components: Laboratory Attributes: Technical

DTP 140(3) Course ID:001282
Hydraulics
Covers the theory and operation of a hydraulic system including pumps, filters, reservoirs, valves and actuators. Co-requisite: DTP 141. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

DTP 141(2) Course ID:001283
Hydraulics Lab
Includes the hands-on concepts covered in DTP 140. Covers the inspection, diagnosis and repair strategies of hydraulic systems. Co-requisite: DTP 140. Laboratory: 2 credits (90 contact hours).
Components: Laboratory Attributes: Technical

DTP 150(3) Course ID:001284
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. Co-requisite: DTP 151. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

DTP 151(2) Course ID:001285
Power Trains Lab
Provides for practical application of concepts taught in DTP 150. Covers topics covered that will include clutches, transmission, and drive axles on medium and heavy duty trucks. Co-requisite: DTP 150. Laboratory: 2 credits (90 contact hours).
Components: Laboratory Attributes: Technical

DTP 152(3) Course ID:001286
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).
Components: Lecture Attributes: Technical

DTP 153(2) Course ID:001287
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).
Components: Laboratory Attributes: Technical

DTP 160(3) Course ID:001288
Steering and Suspension
Covers the theory, operation and diagnosis of the steering and suspension system on medium and heavy duty trucks. Co-requisite: DTP 161. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

DTP 161(2) Course ID:001289
Steering and Suspension Lab
Provides for practical application of concepts taught in DTP 160. Introduces skills necessary in the diagnosis and repair of truck suspension systems, wheel alignment, and wheel balancing. Pre-requisite: DTP 160. Laboratory: 2 credits (90 contact hours).
Components: Laboratory Attributes: Technical
DIT 180(3)  Course ID:001290  
Brakes  
Covers the theoretical and practical aspects of air brakes, hydraulic brakes, and anti-lock brake systems. Covers the function and repair of disc brakes and drum brakes. Co-requisite: DIT 191. Lecture: 3 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical  

DIT 181(2)  Course ID:001291  
Brakes Lab  
Provides hands-on activities related to the concepts covered in DIT 180. Includes inspection, diagnosis, and repairing repairs on air powered and hydraulic powered braking systems found on medium and heavy duty trucks. Co-requisite: DIT 180. Laboratory: 2 credits (90 contact hours). 
Components: Laboratory  
Attributes: Technical  

DIT 190(3)  Course ID:001292  
Electrical Systems for Diesel Equipment  
Covers the operation and diagnosis of the truck electrical system including the battery, starter, alternator, lighting and accessories. Co-requisite: DIT 191. Lecture: 3 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical  

DIT 191(2)  Course ID:001293  
Electrical Systems for Diesel Equipment Lab  
Provides hands-on activities related to the concepts covered in DIT 190. Covers inspection, diagnosis and performing repairs on batteries, starters, alternators and accessory systems found on medium and heavy duty trucks. Co-requisite: DIT 190. Laboratory: 2 credits (90 contact hours). 
Components: Laboratory  
Attributes: Technical  

DIT 198(1)  Course ID:001297  
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. Pre-requisite: Permission of Instructor. Practicum: 1 credit (75 contact hours). 
Components: Practicum  
Attributes: Technical  

DLC 101(3)  Course ID:017022  
Digital Literacy  
Introduces the central components of digital literacy including computer operation for information gathering, communication, and living/online working. 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. Pre-requisite: RDG 20 or Consent of Instructor. Lecture: 3 credit hours (45 contact hours). 
Components: Lecture  
Attributes: Digital Literacy, Course Also Offered in Modules  

DLC 101(1)  Course ID:017023  
Digital Essentials  
Introduces students to computer classifications, how to use an operating system, and how to use email. Pre-requisite: RDG 20 or Consent of Instructor. Lecture: 1 credit (15 contact hours). 
Components: Lecture  

DLC 102(1)  Course ID:017024  
Digital Intermediate  
Introduces students to the legal and ethical use of computers. Introduces students to the use of productivity software. Pre-requisite: DLC 101 or Consent of Instructor. Lecture: 1 credit (15 contact hours). 
Components: Lecture  

DLC 103(1)  Course ID:017025  
Digital Advanced  
Introduces students to the principles of computer and network security, basic troubleshooting techniques, and how to use computers to enhance life and work. Pre-requisite: DLC 102 or Consent of Instructor. Lecture: 1 credit (15 contact hours). 
Components: Lecture  

DLC 104(3)  Course ID:017026  
Production  
Introduces the practical aspects of producing a final product. Emphasizes the role of the radiographer in patient preparation, patient care procedures, as well as infection control and quality requirements. Laboratory experience is provided in the classroom or selected externships in local dental laboratories. Pre-requisite: DLC 261. Lecture: 2 credits (30 contact hours); Laboratory: 6 credits (270 contact hours). 
Components: Laboratory, Lecture  

DLC 105(2)  Course ID:017027  
Radiography Practicum 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 correct positioning action to be taken for sub-optimal images. Pre-requisite: BIO 137. Lecture: 2 credit hours (30 contact hours); Lab: 2 credit hours (60 contact hours). 
Components: Laboratory, Lecture  
Attributes: Technical  

DLC 106(3)  Course ID:017028  
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 correct positioning action to be taken for sub-optimal images. Pre-requisite: BIO 137. Lecture: 2 credit hours (30 contact hours); Lab: 2 credit hours (60 contact hours). 
Components: Laboratory, Lecture  
Attributes: Technical  

DLC 107(2)  Course ID:017029  
Medical Terminology for Radiographers  
Provides the ability to create and interpret medical terminology. Introduces the word-building system and discusses medical abbreviations and symbols. Introduces an orientation to understanding radiographic orders and diagnostic report interpretation and related terminology. Pre-requisite: Admission to the radiography program. Lecture: 1 credit hour (15 contact hours). 
Components: Lecture  
Attributes: Technical  

DLC 108(4)  Course ID:017127  
Radiographic Positioning & Procedures II  
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 correct positioning action to be taken for sub-optimal images. Pre-requisite: BIO 137. Lecture: 2 credit hours (30 contact hours); Lab: 2 credit hours (60 contact hours). 
Components: Laboratory, Lecture  
Attributes: Technical  

DLC 110(1)  Course ID:017141  
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, abdomen, vertebral column, cranium, facial bones, and contrast studies of the digestive and urinary system. Pre-requisite: Admission to the radiography program. Practicum: 1 credit hour (90 contact hour). 
Components: Practicum  
Attributes: Technical  

DLC 111(3)  Course ID:017645  
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. Pre-requisite: MAT 150 or higher level quantitative reasoning course. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours). 
Components: Laboratory, Lecture  
Attributes: Technical  

DLC 112(3)  Course ID:017139  
Radiography Practicum I  
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. Pre-requisite: DMI 106 & DMI 108. Lecture: 2 credit hours (30 contact hours). 
Components: Lecture  
Attributes: Technical  

DLC 113(4)  Course ID:017138  
Radiographic Positioning and Procedures II  
Provides the knowledge base necessary to perform standard imaging procedures of the spine, cranial, facial bones, paranasal sinuses, upper gastrointestinal, lower gastrointestinal, and urinary system. Covers criteria for optimal diagnostic images, including anatomical structures shown, as well as correct positioning action to be taken for sub-optimal images. Pre-requisite: DMI 108. Lecture: 3 credit hours (45 contact hours); Lab: 1 credit hour (30 contact hours). 
Components: Laboratory, Lecture  
Attributes: Technical  

DLC 120(2)  Course ID:017137  
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 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. Pre-requisite: DMI 110. Practicum: 2 credit hours (180 contact hours). 
Components: Practicum  
Attributes: Technical
DMS 128(3)  Course ID: 017136
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. Pre-requisite: DMI 108 & DMI 118. Lecture: 2 credit hours (30 contact hours). Lab: 1 credit hour (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DMS 130(2)  Course ID: 017135
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. Pre-requisite: DMI 120. Practicum: 2 credit hours (180 contact hours).
Components: Practicum
Attributes: Technical

DMS 212(3)  Course ID: 017646
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. Pre-requisite: DMI 112. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

DMS 220(4)  Course ID: 017133
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. Pre-requisite: DMI 130. Practicum: 4 credit hours (360 contact hours).
Components: Practicum
Attributes: Technical

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. Pre-requisite: DMI 108 & DMI 118. Lecture: 2 credit hours (30 contact hours).
Components: Lecture
Attributes: Technical

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 covered. 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. Pre-requisite: DMI 112. Lecture: 2 credit hours (30 contact hours).
Components: Lecture
Attributes: Technical

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. Pre-requisite: DMI 108, DMI 118 & DMI 128. Lecture: 3.0 credit hours (45 contact hours).
Components: Lecture
Attributes: Technical

DMS 228(3)  Course ID: 017129
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, quality assurance and management 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. Pre-requisite: Final semester in the radiography program. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: Digital Literacy, Technical

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. Pre-requisite: DMI 220. Practicum: 4 credit hours (360 contact hours).
Components: Practicum
Attributes: Digital Literacy, Technical

Diagnostic Medical Sonographer

Course ID: 004392
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 medicine pertinent to abdominal, superficial structures, musculoskeletal and non-cardiac chest sonography. Includes obtaining the clinical history, interpretation of disease, 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. Pre-requisite: Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent; CPR certification. Lecture: 4.0 credits (60 contact hours). Laboratory: 2.0 credits (90 contact hours) (45:1 Ratio).
Components: Laboratory, Lecture
Attributes: Technical

DMS 115(6)  Course ID: 004395
Instructor Consent Required
Sonography II
Cover the study of the clinical applications within the sonographic specialities 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, with an emphasis on the demonstration of clinical applications of theoretical principles and concepts. Pre-requisite: Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent; CPR certification. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

DMS 116(6)  Course ID: 006260
OB/GYN Sonography
Covers the study of the clinical applications within the sonographic specialities 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, with an emphasis on the demonstration of clinical applications of theoretical principles and concepts. Pre-requisite: Admission to Diagnostic Medical Sonography program; Computer Literacy; NAA 100 or equivalent. Lecture/Lab: 6.0 credits (150 contact hours).
Components: Lecture
Attributes: Technical

DMS 119(6)  Course ID: 004393
Department Consent Required
Ultrasound 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. Pre-requisite: Consent of Program Coordinator. Lecture: 6.0 credits (90 contact hours).
Components: Lecture
Attributes: Digital Literacy, Technical

DMS 126(3 - 4)  Course ID: 004394
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/foetus, gravid and non-gravid pelvic structures with basic competencies to be performed. Pre-requisite: Minimum grade of ‘C’ in (DMS 109 and DMS 115) or (DMS 111 and DMS 116). Clinical: 3.0 - 4.0 credits (180 - 240 contact hours).
Components: Clinical
Attributes: Technical
DMS 146(12)  Course ID:017115
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. Pre-requisite: Admission to Diagnostic Sonography program; Digital Literacy; NAA 100 or equivalent; CPR certification. Co-requisite: DMS 147. Lecture: 8 credit hours (120 contact hours). Lab: 4 credit hours (180 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

DMS 147(1)  Course ID:017116
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. Pre-requisite: Admission to the Diagnostic Medical Sonography program; Digital Literacy; NAA 100 or equivalent; CPR certification. Co-requisite: DMS 146. Clinical: 1 credit hour (60 contact hours).
Components: Clinical
Attributes: Technical

DMS 199(1)  Course ID:005936
Online Physics Review
Includes a review of basic ultrasound physics, transducers, bioeffects, artifacts, quality assurance and principles of Doppler techniques. Pre-requisite: DMS 119 or DMS 121 with minimum "C" grade or Consent of Instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical

DMS 201(1)  Course ID:005937
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. Pre-requisite: DMS 109 or DMS 111 with minimum “C” grade or Consent of Program Coordinator. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical

DMS 202(1)  Course ID:005938
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. Pre-requisite: DMS 115 or DMS 116 with minimum “C” grade or Consent of Program Coordinator. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical

DMS 207(7)  Course ID:017117
Cardiac Techniques II
Presents content on additional cardiac pathways 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. Pre-requisite: DMS 146 with a minimum “C” grade or Consent of Program Coordinator. Lecture: 4 credit hours (60 contact hours). Lab: 3 credit hours (135 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

DMS 215(6)  Course ID:005944
Cardiac Sonography III
 Covers the basic embryology of the heart, fetal and postnatal circulation, and basic types of congenital heart defects found in the adult. Includes how systemic disease affects the heart and basic clinical problem solving techniques used in echocardiography. Pre-requisite: DMS 205 with minimum “C” grade. Lecture/Lab: 6.0 credits (270 contact hours).
Components: Lecture

DMS 230(5 - 8)  Course ID:004396
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. Pre-requisite: Admission to Diagnostic Medical Sonography Program; Computer Literacy; 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. Clinical: 5.0 - 8.0 credits (300 - 480 contact hours).
Components: Clinical
Attributes: Technical

DMS 240(5 - 8)  Course ID:004398
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. Pre-requisite: DMS 230 with Minimum “C” grade. Clinical: 5.0 - 8.0 credits (300 - 480 contact hours).
Components: Clinical
Attributes: Technical

DMS 247(2)  Course ID:017120
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. Pre-requisite: DMS 147 with a grade of Pass or Consent of Program Coordinator. Co-requisite: DMS 207. Clinical: 2 credit hours (120 contact hours).
Components: Clinical
Attributes: Technical

DMS 248(6)  Course ID:017121
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. Pre-requisite: DMS 247 with minimum “C” grade or Consent of Program Coordinator. Clinical: 6 credit hours (360 contact hours).
Components: Clinical
Attributes: Technical

DMS 255(6)  Course ID:005939
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 interventional procedures, intraoperative monitoring and the use of contrast agents. Covers vascular physics including blood flow characteristics and pressure/flow/velocity relationships. Pre-requisite: Minimum “C” grade in (DMS 119 and DMS 240) or Consent of Program Coordinator. Lecture/Lab: 6.0 credits (120 contact hours).
Components: Lecture
Attributes: Technical

DMS 260(6)  Course ID:005940
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. Pre-requisite: DMS 255 with minimum “C” grade. Clinical: 6.0 credits (360 contact hours).
Components: Clinical
Attributes: Technical

DPT 100(3)  Course ID:015703
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 technologies, 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. Lecture: 2 contact hours (30 contact hours). Lab: 1 contact hour (30 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Digital Literacy, Technical

DPT 102(2)  Course ID:016604
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. Pre-requisite or Co-requisite: CIT 105, demonstration of digital literacy competency by exam or certificate, or other approved course with digital literacy status. Lecture/Lab: 2.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

DPT 150(3)  Course ID:016605
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. Pre-requisite: DPT 100 or DPT 102. Lecture/ Lab: 3.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

DPT 210(3)  Course ID:017530
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. Pre-requisites: DPT 100, CIT 105. Integrated Lecture/Lab: 3.0 credits (60 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical
Special Projects for 3D Printing, Level I

Provides students with an introduction to 3D printing technology and the software required to design and print objects. Introduces the process of 3D printing from design to print, covering topics such as file formats, slicing, and post-processing. Requires a basic understanding of design software. Pre-requisite: ENG 101. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

ECO 101(3)
Components: Lecture
Course ID:000445
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).

Components: Lecture
Attributes: SB - Social Behavior Science, Course Also Offered in Modules

ECO 201(3)
Course ID:000447
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).

Components: Lecture
Attributes: SB - Social Behavior Science, Course Also Offered in Modules

ECO 202(3)
Course ID:000449
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).

Components: Lecture
Attributes: SB - Social Behavior Science, Course Also Offered in Modules

EDM 270(3)
Course ID:000411
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. Pre-requisite: EDM 202 and EDU 201. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

EDP 202(3)
Course ID:000452
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. Pre-requisite: PSY 100 or PSY 110. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Other

EDP 203(3)
Course ID:000453
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. Pre-requisite: EDP 202 with an earned grade of C or higher. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Other

EDU 110(3)
Course ID:000450
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).

Components: Lecture
Attributes: Technical

EDU 120(3)
Course ID:000445
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).

Components: Lecture
Attributes: Technical

EDU 130(3)
Course ID:000449
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).

Components: Lecture
Attributes: Technical

EDU 140(3)
Course ID:000448
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. Pre-requisite: ENG 101. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical
Introduction to American Education

Provides an introduction to teaching including teaching as a profession, major educational philosophies, social reform, trends and issues in education, curriculum and instruction, and an understanding of the minimum of 15 clock hours of field observation in an approved educational setting. Pre-requisite: ENG 101 or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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).

Components: Lecture
Attributes: Digital Literacy

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. Pre-requisite: ENG 102. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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. Pre-requisite: MAT 165 Calculus II (C or better). Co-requisite: PHY 232 University Physics II. Lecture: 3 credit hours (37.5 contact hours). Lab: 0.50 credit hour (30 contact hours).

Components: Laboratory, Lecture
Attributes: University Course (Western Kentucky University)

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: MA 114. Pre-requisite or concurrent: PHY 232, PHY 242.

Components: Lecture
Attributes: Technical

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).

Components: Lecture
Attributes: Technical

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).

Components: Lecture
Attributes: Technical

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. Pre-requisite: MAT 055 or equivalent placement level or consent of program advisor(s). Lecture: 5.0 credits (45 contact hours Lab / 60 contact hours Lab)

Components: Lecture
Attributes: Technical

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. Pre-requisite: Consent of Instructor. Lecture: 1.0 credit (15 contact hours).

Components: Lecture
Attributes: Technical

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: EET 110 or EET 119 with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Co-requisite: EET 151. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical

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). Co-requisite: EET 155. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical

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). Co-requisite: EET 154. Laboratory: 2.0 credits (60 contact hours).

Components: Laboratory
Attributes: Technical

Instructor Consent Required

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.) Pre-requisite: Consent of Electrical Technology program advisor(s). 2.0 credits (150 contact hours).

Components: Practicum
Attributes: Technical

EET 101(2)

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 Ohm's 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).

Components: Lecture
Attributes: Technical

EET 100(3)

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 around hazardous environments according to OSHA and the NFPA 70E. Lecture: 3.0 credits (45 contact hours)

Components: Lecture
Attributes: Technical
EET 199(2) Course ID:001362
Instructor Consent Required
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).
Components: Co-Dp Attributes: Technical

EET 200(2) Course ID:017531
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).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

EET 201(2) Course ID:017532
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. Prerequisite: EET 200 Robotic Systems I. Integrated Lecture/Lab: 2.0 credits (45 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

EET 202(2) Course ID:017533
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. Prerequisite: EET 201 Robotic Systems II OR IMT 200 Industrial Robotics and Robotic Maintenance. Integrated Lecture/Lab: 2.0 credits (45 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

EET 203(2) Course ID:017534
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. Prerequisite: EET 201 Robotic Systems II OR IMT 200 Industrial Robotics and Robotic Maintenance. Integrated Lecture/Lab: 2.0 credits (45 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

EET 250(4) Course ID:001410
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. Pre-requisite: ELT 110 OR EET 119 with minimum grade of "C" or consent of Electrical Technology Program advisor(s). Lecture: 4.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

EET 252(2) Course ID:001411
Electrical Construction II
Expands the knowledge and skills needed to work in commercial and industrial construction wiring. Prerequisite: Consent of Instructor or EET 154. Co-requisite: EET 253. Lecture: 2 credits (30 contact hours).
Components: Lecture Attributes: Technical

EET 253(2) Course ID:001412
Electrical Construction II Lab
Provides hands-on experiences needed to work in commercial and industrial construction wiring. Co-requisite: EET 252. Laboratory: 2 credits (60 contact hours).
Components: Laboratory Attributes: Technical

EET 254(3) Course ID:001413
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. 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. Lecture: 3 credits (45 contact hours).

EET 255(4) Course ID:001414
Electrical Construction Lab
Provides hands-on experiences with electrical materials and equipment related to commercial and industrial construction wiring. 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. Laboratory: 4 credits (120 contact hours).
Components: Laboratory Attributes: Technical

EET 264(2) Course ID:001419
Rotating Machinery
Focuses on the underlying principles of rotating electrical equipment including DC and AC motors and generating equipment, operation, applications, and the maintenance of DC and AC motors and generating equipment. 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. Lecture: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical

EET 265(2) Course ID:001420
Rotating Machinery Lab
Focuses on the principles of operation, application and maintenance of single-phase and three-phase AC motors and DC alternators. Prepares students to the standards of the National Electrical Code and its use in industry. Pre-requisite: EET 110 or EET 119 with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Co-requisite: EET 264. Lab: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical

EET 266(3) Course ID:001421
Rotating Machinery and Transformers
Focuses on the principles of operation and application of single-phase and three-phase AC transformers, motors and alternators, and DC motors and generators. Prepares students to the current National Electric Code standards to insure safe installation methods. 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. Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

EET 267(3) Course ID:001422
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. Prepares the student to work in industry in accordance with the current National Electric Code standards to insure safe installation methods. 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. Lab: 3.0 credits (90 contact hours).
Components: Laboratory Attributes: Technical

EET 268(3) Course ID:001423
Instructor Consent Required
Rotating Machinery Electrical Motor Controls I
Focuses on the construction, operation and maintenance of DC motors and generators and AC motors and alternators. Prepares students to work in industry in accordance with the current National Electric Code standards to insure safe installation methods. 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. Lecture: 3.0 credits (45 contact hours).

EET 270(2) Course ID:001425
Electrical Motor Controls I
Addresses the diversity of control devices and applications used in industry today. Emphasizes the importance of safety and electrical lockouts. 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. Lecture: 2.0 credits (30 contact hours).

EET 271(2) Course ID:001426
Electrical Motor Controls I Lab
Provides practical experience in the use of control devices and their applications in industry today. Prepares students to work in industry in accordance with the current National Electric Code standards to insure safe installation methods. Pre-requisite: Consent of Instructor or EET 119 with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Co-requisite: EET 270. Lab: 2.0 credit (60 contact hours).
Components: Laboratory Attributes: Technical

EET 272(2) Course ID:001427
Electrical Motor Controls II
Introduces advanced study of motor controls in industry. Prepares students to work in industry in accordance with the current National Electric Code standards to insure safe installation methods. 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. Lecture: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical
EET 273(2) Course ID:001428
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). Co-requisite: EET 272. Laboratory: 2.0 credits (60 contact hours). Components: Laboratory Attributes: Technical

EET 274(3) Course ID:001429
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. 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. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical

EET 275(4) Course ID:001430
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. 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. Lab: 4.0 credits (120 contact hours). Components: Laboratory Attributes: Technical

EET 276(2) Course ID:001431
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. 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. Lecture: 2.0 credits (30 contact hours). Components: Lecture Attributes: Technical

EET 277(2) Course ID:001432
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 PLCs. 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. Lab: 2.0 credits (60 contact hours). Components: Laboratory Attributes: Technical

EET 280(4) Course ID:017412
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. Pre-requisite: EET 276 and EET 277 with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Integrated Lecture/Lab: 4 credits (90 contact hours). Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

EET 281(2) Course ID:001435
Instructor Consent Required
Special Problems I
A course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 1 credit (45 contact hours). Components: Laboratory Attributes: Technical

EET 283(2) Course ID:001436
Instructor Consent Required
Special Problems II
A course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 2 credits (90 contact hours). Components: Laboratory Attributes: Technical

EET 285(3) Course ID:001437
Special Problems III
A course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 3 credits (135 contact hours). Components: Laboratory Attributes: Technical

EET 286(2) Course ID:004627
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. Pre-requisite: (EET 276) with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Co-requisite: EET 286. Lecture: 2 credits (30 contact hours). Components: Lecture Attributes: Technical

EET 287(2) Course ID:004628
Programmable Logic Controllers II
Provides an in-depth study of electrical troubleshooting including schematics, wiring diagrams, digital multimeters, programmable logic controllers, and motor analyzers. Prepares students to learn how to troubleshoot common electrical faults using a multimeter. Focuses primarily on providing students with an overview of common electrical faults and how to pinpoint them using a programmable logic controller. Pre-requisite: (EET 276 and EET 277) with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Co-requisite: EET 287. Lecture: 2 credits (60 contact hours). Components: Laboratory Attributes: Technical

EET 290(4) Course ID:017413
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 multimeters, programmable logic controllers, and motor analyzers. Prepares students to learn how to troubleshoot common electrical faults using a multimeter. Focuses primarily on providing students with an overview of common electrical faults and how to pinpoint them using a programmable logic controller. Pre-requisite: (EET 276 and EET 277) with a minimum grade of "C" or consent of Electrical Technology program advisor(s). Co-requisite: EET 286. Laboratory: 2 credits (60 contact hours). Components: Laboratory Attributes: Technical

EET 295(4) Course ID:017416
Alternative Energy Photovoltaic and Wind Electrical Generations Systems
Introduces students to the methods and equipment necessary for the installation and maintenance of photovoltaic and, wind electrical generation systems. 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. 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). Lecture: 3 credits (45 contact hours). Lab: 1 credit (30 contact hours). Components: Laboratory, Lecture Attributes: Technical

EET 298(1-8) Course ID:001438
Practicum
Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Practicum do not receive compensation). Pre-requisite: Consent of Electrical Technology program advisor(s). This course may be taken for 1 - 8 credits. Components: Practicum Attributes: Technical

EET 299(1-8) Course ID:001439
Instructor Consent Required
Cooperative Education Program
Provides supervised on-the-job work experience related to the student's educational objectives. (Students participating in the Cooperative Education program may receive compensation for their work). This course may be taken for 1 - 8 credits. Pre-requisite: Consent of Electrical Technology program advisor(s). Components: Co-Op Attributes: Technical

EFM 100(3) Course ID:001440
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). Components: Lecture Attributes: Other, Enrichment Course Other

EGR 101(1) Course ID:009198
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. Pre-requisites: Enrolled in the College of Engineering or MA-ACC of at least 23 or equivalent. Students who received credit for EGR 112 are not eligible for EGR 101. Lecture: 1.0 credit (30 contact hours). Components: Lecture Attributes: University Course (University of Kentucky)

EGR 120(4) Course ID:006821
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. Pre-requisite: (ELT 110 and ETT 110) or (electrical experience and consent of instructor). Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours). Components: Laboratory, Lecture Attributes: Technical
EGY 170(4) Course ID:006822
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, maintenance and transmission safety. Pre-requisite: (ELT 110 and EET 150 and EET 151) or (electrical experience and consent of instructor). Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

EGY 220(4) Course ID:006823
Energy Efficiency Electrical Controls
Designed for Electrical Technology students and Apprentice, Journeymen, 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. 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). Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

EGY 230(4) Course ID:006824
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. 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). Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

EGY 240(4) Course ID:006825
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. Pre-requisite: Consent of instructor. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

EGY 250(4) Course ID:006826
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. Pre-requisite: ELT 110 or consent of instructor. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 224(3) Course ID:004648
Instructor Consent Required
Basic Telecommunications Installation and Maintenance
Provides an overview of concepts needed to complete the duties of 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. Pre-requisite: Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 233(3) Course ID:000623
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. Pre-requisite: (Computer literacy course or demonstrate competency) or consent of instructor. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 234(3) Course ID:000521
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. Pre-requisite: (Computer literacy course or demonstrate competency) or consent of instructor. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 240(6) Course ID:004650
Communications Electronics
Provides the theory of AM and FM, RF communications, transmission, reception, multiplexing, and modern data communications. Pre-requisite: (ELT 220 and ELT 214) or Consent of Instructor. Lecture: 4.0 credits (60 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 244(4) Course ID:000644
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lecture: 3.0 credits (45 contact hours) Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 250(4) Course ID:000657
Programmable Logic Controllers
Covers the study of Programmable Logic Controllers with an emphasis on the function and use of PLCs in an industrial environment. Pre-requisite: ELT 244 or Consent of instructor. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 260(5) Course ID:004652
Instructor Consent Required
Robotics 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 work cells into a total computer-integrated manufacturing system at a beginning level. Pre-requisite: Consent of Instructor. Lecture: 3.0 credits (45 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Course Also Offered in Modules, Technical ELT 264(4)
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. Pre-requisite: (ELT 211 and PHY 211) or Consent of Instructor. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical
ELT 265(3) Course ID:000697
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).
Components: Laboratory, Lecture
Attributes: Technical
ELT 289(1) Course ID:006806
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. Pre-requisite: (ELT 120 and ELT 210) or Consent of Instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical
ELT 290(1 - 4) Course ID:000742
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 a maximum of eight credit hours. Pre-requisite: Consent of instructor. Lecture: 0.4-4.0 credit hours (15-60 contact hours); Laboratory: 0.3-4.0 credit hours (45-45 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
ELT 295(1 - 2) Course ID:000746
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lecture: 1.0 - 2.0 credits (10-30 contact hours); Laboratory: 1.0 - 2.0 (30-60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
EM Engineering Mechanics
EM 221(3) Course ID:000462
Statics
Stu class força de 0.25 em est. verso vector; estudio de forças sistemas; alcanço força sistemas; distribuídas forças; forças internas; princípios de equilíbrio; aplicação a truss, frames and beams; and friction. Pre-requisite or concurrent: ME 215. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Other
EM 1101(1) Course ID:005638
Basic Electricity
Introduces basic DC circuits, specifically safety, basic test equipment, electrical resistance and Ohm's law. Pre-requisite: (MAT 065 or equivalent placement level) or Consent of Instructor. Lecture: 0.6 credits (9 contact hours). Lab: 0.4 credits (12 contact hours).
Components: Laboratory, Lecture
EM 1102(1) Course ID:005639
Series and Parallel Circuits
Introduces basic DC circuits, specifically series and parallel circuits. Emphasizes design, construction, and troubleshooting of simple DC circuits in laboratory exercises. Pre-requisite: (ELT 1101 with a grade of C or better) or Consent of Instructor. Lecture: 0.6 credits (9 contact hours). Lab: 0.4 credits (12 contact hours).
Components: Laboratory, Lecture
EM 1103(1) Course ID:005640
Introductory Circuit Analysis
Introduces basic DC circuits, specifically series-parallel circuit analysis techniques. Emphasizes design, construction, and troubleshooting of simple DC circuits in laboratory exercises. Pre-requisite: (ELT 1102 with a grade of C or better) or Consent of Instructor. Lecture: 0.6 credits (9 contact hours). Lab: 0.4 credits (12 contact hours).
Components: Laboratory, Lecture
EM 1104(1) Course ID:005641
Magnetism and Alternating Current
Introduces basic AC circuits, specifically introductory magnetism and basic AC theory. Emphasizes design, construction, and troubleshooting of simple AC circuits in laboratory exercises. Pre-requisite: (ELT 1103 with a grade of C or better) or Consent of Instructor. Lecture: 0.6 credits (9 contact hours). Lab: 0.4 credits (12 contact hours).
Components: Laboratory, Lecture
EM 1105(1) Course ID:005642
Capacitance and Inductance
Introduces basic AC circuits, specifically capacitance, inductance and transformer principles. Emphasizes design, construction, and troubleshooting of simple AC circuits in laboratory exercises. Pre-requisite: (ELT 1104 with a grade of C or better) or Consent of Instructor. Lecture: 0.6 credits (9 contact hours). Lab: 0.4 credits (12 contact hours).
Components: Laboratory, Lecture
EM 1201(1) Course ID:005648
Instructor Consent Required
Basic Electronics
Introduces basic digital circuits, specifically number systems and input output functions of gates and circuits. Pre-requisite: Consent of Instructor. Lecture: 0.66 credits (10 contact hours). Lab: 0.34 credits (10 contact hours).
Components: Laboratory, Lecture
EM 1202(1) Course ID:005649
Logic Circuit Design
Introduces design methods for basic digital circuits. Pre-requisite: (ELT 1201 with a grade of C or better) or Consent of Instructor. Lecture: 0.67 credits (10 contact hours). Lab: 0.33 credits (10 contact hours).
Components: Laboratory, Lecture
EM 1203(1) Course ID:005650
Logic Circuit Components and Troubleshooting
Covers construction, troubleshooting and testing of logic circuits. Pre-requisite: (ELT 1201 with a grade of C or better) or Consent of Instructor. Lecture: 0.67 credits (10 contact hours). Lab: 0.33 credits (10 contact hours).
Components: Laboratory, Lecture
EMS Paramedic/Allied Health

EMS 105(6) Course ID:007303
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, extraction, transportation, and patient monitoring as well as medical/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. Pre-requisite: Minimum ACT Reading Score of 15 or Consent of Instructor. Components: Lecture Attributes: Technical

EMS 150(5) Course ID:016094
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. Pre-requisite: Reading, English, and Mathematics assessment exam scores above KCTCS developmental level or successful completion of the prescribed developmental courses. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (45 contact hours). Clinical: 1.0 credit (45 contact hours). Components: Clinical, Laboratory, Lecture Attributes: Technical

EMS 200(4) Course ID:007304
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. Pre-requisite: EMS 105 or FRS 2061 or current unrestricted state certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor. BIO 135 OR Consent of Instructor. Co-requisite: EMS 211. Lecture: 4.0 credits (60 contact hours). Components: Lecture Attributes: Technical

EMS 201(6) Course ID:017262
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. Pre-requisite: FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible, and Program Admission OR consent of instructor. Lecture: 6 credit hours (90 contact hours). Components: Lecture Attributes: Technical

EMS 202(5) Course ID:017263
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. Pre-requisite: FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor. Lecture: 5 contact hours (75 contact hours). Components: Lecture Attributes: Technical

EMS 203(1) Course ID:017264
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. Pre-requisite: FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor. Clinical 1 credit hour (45 contact hours). Components: Clinical Course Equivalents: EMS 215 Attributes: Technical

EMS 204(2) Course ID:017265
Paramedic Lab I
Provides fundamental skills in a lab setting. Applies 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 209 Paramedic Lab III and builds on knowledge of the previous. Pre-requisite: FRS 2061, EMS 105, unrestricted certification or validated National Registry status as EMT eligible and Program Admission OR consent of instructor. Lecture: 2 credit hours (60 contact hours). Components: Laboratory Course Equivalents: EMS 211 Attributes: Technical

EMS 205(6) Course ID:017298
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 pharmaceutical and electrical interventions. Provides knowledge to assess and manage sick patients across the human life span including obstetrics, neonatology, pediatrics, geriatrics, and special challenges. Pre-requisite: Emergency Medical Technician or consent of instructor. Lecture: 6 credits (90 contact hours). Components: Lecture Attributes: Technical

EMS 206(3) Course ID:017299
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. Pre-requisite: Emergency Medical Technician or consent of instructor. Clinical: 3 credits (135 contact hours). Components: Clinical Attributes: Technical

EMS 207(1) Course ID:017300
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). Components: Laboratory Attributes: Technical

EMS 208(6) Course ID:017325
Principles of Paramedicine IV
Provides concepts for 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. Pre-requisite: Emergency Medical Technician or consent of instructor. Lecture: 6 credits (90 contact hours). Components: Lecture Attributes: Course Also Offered in Modules, Technical

EMS 209(2) Course ID:017326
Paramedic Lab III
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. Lab: 2 credits (60 contact hours). Components: Laboratory Attributes: Technical

EMS 210(3)
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. Pre-requisite: EMS 200. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical

EMS 211(2)
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. Pre-requisite: EMS 200. Lab: 2.0 credits (30 contact hours). Components: Laboratory Course Equivalents: EMS 285 Attributes: Technical

EMS 212(4) Course ID:017327
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. Pre-requisite: Emergency Medical Technician or consent of instructor. Practicum: 4 credits (360 contact hours). Components: Practicum Course Equivalents: EMS 285 Attributes: Technical

EMS 213(2)
Course ID:017328
Principles of Paramedicine V
Provides the opportunity for application and review of didactic knowledge and psychomotor skills in preparation for psychomotor and cognitive testing. Pre-requisite: Emergency Medical Technician or consent of instructor. Lecture: 2 credits (30 contact hours). Components: Lecture Attributes: Technical

EMS 214(6)
Course ID:015876
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. Pre-requisite: Must be a registered nurse and EMT. Lecture/Lab: 6.0 credits (120 contact hours).

Components: Lecture
Attributes: Technical

EMS 215(1) Course ID:007307
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. Pre-requisite: EMS 211. Clinical: 1.0 credit (60 contact hours).
Components: Clinical
Course Equivalents: EMS 203
Attributes: Technical

EMS 220(3) Course ID:007308
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 arrest, arrhythmia recognition and 12-lead ECG for field diagnosis, as well as pharmacological and electrical interventions. Pre-requisite: EMS 210 and EMS 211. Co-requisite: EMS 221. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EMS 221(1) Course ID:007309
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. Co-requisite: EMS 220 and EMS 230. Lab: 1.0 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

EMS 225(1) Course ID:007310
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. Pre-requisite: EMS 215. Clinical: 1.0 credit (60 contact hours).
Components: Clinical
Attributes: Technical

EMS 230(4) Course ID:007311
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. Co-requisite: EMS 221. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

EMS 231(1) Course ID:007312
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. Co-requisite: EMS 240 and EMS 260. Lab: 1.0 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

EMS 235(2) Course ID:007313
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. Pre-requisite: EMS 225. Clinical: 2.0 credits (120 contact hours).
Components: Clinical
Attributes: Technical

EMS 240(3) Course ID:007314
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. Co-requisite: EMS 231. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EMS 250(3) Course ID:007315
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. Pre-requisite: EMS 240. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EMS 260(3) Course ID:007316
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. Pre-requisite: EMS 250. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EMS 270(1) Course ID:007317
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).
Components: Lecture
Attributes: Technical

EMS 275(1) Seminar in Advanced Life Support (ALS)
Provides 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. Pre-requisite: EMS 225. Lab: 1.0 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

EMS 285(5-6) 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. Pre-requisite or Co-requisite: EMS 275. Lab: 1.0 credit (45 contact hours). Practicum: 4.0 - 5.0 credits (360-450 contact hours).
Components: Laboratory, Practicum
Course Equivalents: EMS 212
Attributes: Technical

EMS 280(4) Principles of Paramedicine IV Part I
Provides concepts for of out-of-hospital assessment, treatment, and field management of the trauma patient. Because EMS 201 and EMS 202 are interchangeable, this course can be taken before or after EMS202. Pre-requisite: Emergency Medical Technician or consent of instructor. Lecture: 4 credits (60 contact hours).
Components: Lecture

EMS 280(2) 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 201 and EMS 202 are interchangeable, this course can be taken before or after EMS201. Pre-requisite: Emergency Medical Technician or consent of instructor. Lecture: 2 credits (30 contact hours).
Components: Lecture

EMS 2851(3) 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 Co-requisite: EMS 275. Practicum: 3.0 credits (270 contact hours).
Components: Practicum

EMS 2852(2 - 3) 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 Co-requisite: EMS 2851. Laboratory: 1.0 credit (45 contact hours), Practicum 2.0 credits (180 contact hours).
Components: Laboratory, Practicum

ENC 090(3) Course ID:000464
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. Pre-requisite: Placement by KCTCS assessment and placement policy. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Remedial - English and Writing, Course Also Offered in Modules

ENC 091(3) Course ID:000465
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. Pre-requisite: Placement by KCTCS Assessment and Placement policy. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Remedial - English and Writing, Course Also Offered in Modules

275
ENC 096(4) Course ID:016247
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. Pre-requisite: Placement by KCTCS Assessment and Placement Policy. Lecture: 4 credits (60 contact hours).
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0901(1) Course ID:006746
Sentence Basics
Introduces the basics of conventional standard English as these apply to students’ own writing. Pre-requisite: As determined by KCTCS Placement Policy. Lecture: 1.0 credit (15 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0902(0.25) Course ID:006747
Writing With Computers
Introduces the use of technology to produce and share writing. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 0901. Lecture: 0.25 credits (3.75 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0903(0.75) Course ID:006748
Writing Paragraphs
Introduces the writing process with an emphasis on paragraph-length assignments. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 0902. Lecture: 0.75 credits (11.25 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0904(1) Course ID:006747
Pathway to Writing
Provides practice in the writing process and stresses effective paragraphs with emphasis placed on writing in response to reading. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 0903. Lecture 1.0 credit (15 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0911(0.75) Course ID:006750
Intermediate Grammar
Introduces intermediate writing skills and editorial improvement, stressing the conventions of standard written English. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 090. Lecture 0.75 credits (11.25 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0912(1) Course ID:006751
Composition Strategies
Provides practice in the writing process, stressing organization, idea development, and editorial improvement. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 0911. Lecture: 1 credit (15 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0913(0.25) Course ID:006752
Introduction to Research
Introduces basic research and documentation through writing in response to reading. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 0912. Lecture: 0.25 credits (3.75 contact hours)
Components: Lecture
Attributes: Remedial - English and Writing

ENC 0914(1) Course ID:006753
Writing as Process
Provides practice in the writing process, stressing organization, idea development, and editorial improvement. Pre-requisite: As determined by KCTCS Placement Policy or successful completion of ENC 0913. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Remedial - English and Writing

ENG English

ENG 100(2) Course ID:0004574
English Workshop
Provides parallel and supplemental review of English skills needed for students with an English ACT of 18 or 19 or a Compass placement test score between 70-80 who are also enrolled in ENG 101. If these students withdraw from ENG 100, they must also withdraw from ENG 101. Credit cannot be received by special exam. Pre-requisite: Placement by KCTCS Assessment and Placement Policy. Lecture: 2 credits (30 contact hours)
Components: Lecture
Attributes: Other, Supplemental English/Writing

ENG 101(3) Course ID:000467
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. Pre-requisite: Placement by KCTCS Assessment and Placement Policy. Lecture: 3 credits (45 contact hours)
Components: Lecture
Attributes: WC - Written Communication, Course Also Offered in Modules

ENG 102(3) Course ID:000468
Writing II
Emphasizes argumentative writing. Provides further instruction in drafting and systematically reviewing 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. Pre-requisite: ENG 101. Lecture: 3 credits (45 contact hours)
Components: Lecture
Attributes: WC - Written Communication, Course Also Offered in Modules

ENG 105(3) Course ID:000469
Instructor Consent Required
Writing: An Accelerated Course
Combines the content of ENG 101 and ENG 102 in an intensive course emphasizing argumentation and library research and fulfilling the writing/accessing information requirements. Pre-requisite: ACT English score of 25 or COMPASS English score of 85 AND ACT Reading score of 20 or COMPASS reading score of 90. Lecture: 3 credits (45 contact hours)
Components: Lecture
Attributes: WC - Written Communication

ENG 107(3) Course ID:016136
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)
Components: Lecture
Attributes: AH - Arts and Humanities, University Course (University of Kentucky)

ENG 135(3) Course ID:000275
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. Pre-requisite: English ACT 18 and Reading ACT 20 OR completion of transitional reading and writing. Lecture: 3 credits (45 contact hours)
Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities

ENG 161(3) Course ID:000470
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)
Components: Lecture
Attributes: AH - Arts and Humanities

ENG 190(3) Course ID:016988
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)
Components: Lecture
Attributes: AH - Arts and Humanities

ENG 203(3) Course ID:000472
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. Pre-requisite: [ENG 101 and (ENG 102 or Consent of Instructor)] or ENG 105. Lecture: 3.0 credits (45 contact hours)
Components: Lecture
Attributes: Other, Course Also Offered in Modules

ENG 204(3) Course ID:000474
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.
Components: Lecture
Attributes: Other

ENG 207(3) Course ID:000477
Instructor Consent Required
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. Pre-requisite: ENG 101.
Components: Lecture
Attributes: Other

ENG 208(3) Course ID:006704
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. Pre-requisite: ENG 101. Lecture: 3 credits (45 contact hours)
Components: Lecture
Attributes: Other
<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>000479</td>
<td>Survey of English Literature I</td>
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<tr>
<td>000481</td>
<td>Survey of English Literature II</td>
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<td>000487</td>
<td>Survey of Western Literature from the Greeks through the Renaissance</td>
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<td>000489</td>
<td>Survey of Western Literature from 1660 to the Present</td>
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<tr>
<td>004530</td>
<td>Literature and Theme (subtitle required)</td>
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<tr>
<td>004903</td>
<td>Literature and Place (Subtitle required)</td>
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<tr>
<td>004904</td>
<td>Literature and Identities (Subtitle required)</td>
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<td>004905</td>
<td>Introduction to Women’s Literature</td>
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<td>004843</td>
<td>Survey of American Literature I</td>
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<td>004867</td>
<td>Special Topics in English</td>
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<td>005878</td>
<td>Writing a Profile Essay</td>
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<td>005789</td>
<td>Writing to Persuade</td>
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<td>005790</td>
<td>Writing with Sources</td>
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<td>005791</td>
<td>The Language of Argument</td>
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<td>005792</td>
<td>Argument Style and Design</td>
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<td>005793</td>
<td>Research and Argument</td>
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<tr>
<td>005859</td>
<td>Business Writing Basics</td>
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</table>

**Components:** Lecture
**Attributes:** AH - Arts and Humanities
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<tr>
<th>Course ID</th>
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<tbody>
<tr>
<td>ENM 203(2)</td>
<td>Course ID:015860 Specialized Business Messages</td>
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<td>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. Pre-requisite: ENG 2031. Lecture: 1.0 credit (15 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>ENG 203(3)</td>
<td>Course ID:015861 Reports and Proposals</td>
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<td>Emphasizes lengthy and complex business messages, specifically researching for and writing business reports and business proposals. Pre-requisite: ENG 2032. Lecture: 1.0 credit (15 contact hours). Components: Lecture</td>
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<tr>
<td>ENM 101(9)</td>
<td>Course ID:007242 Energy Industry Fundamentals</td>
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<td>Investigates competencies required for employment by various industries that manufacture energy sources. Introduces students to methods of power production, power distribution, and physics principles that are associated with both, and addresses competencies identified by the Center for Energy Workforce Development (CEWD) organization needed for power industries. Qualifies the student to take the CEWD Energy Industry Fundamentals Certification exam. Lecture/Lab: 9.0 credits (150 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>ENM 250(3)</td>
<td>Course ID:007222 Regulatory and Environmental Issues in Energy Management</td>
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<td>Observes building energy conservation code compliance adopted by various states. Complements other courses in the energy management program providing additional skills needed for energy efficient buildings. Qualifies students to take the LEED Green Associate exam upon completion of the course. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>ENM 260(3)</td>
<td>Course ID:007223 Air Conditioning and Refrigeration Regulations</td>
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<td>Analyzes the regulations associated with the 608 EPA certification. Outlines techniques and regulations associated with EPA policies. Complements other proposed energy management courses providing additional skills needed for energy efficient buildings. Qualifies students to take the 608 EPA Certification Examination at the completion of the course. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>ENM 1001(3)</td>
<td>Course ID:016357 Energy Industry Basics</td>
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<td>Investigates competencies required for employment by various industries that manufacture energy sources. Addresses the competencies identified by the Center for Energy Workforce Development (CEWD) organization that are needed for energy industries. Combines with the other two modules to qualify students to take the CEWD Energy Industry Fundamentals (EIF) certification exam. Lecture/Lab: 3.0 credits (60 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>ENM 1012(3)</td>
<td>Course ID:016359 Power Creation and Distribution</td>
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<td>Introduces students to methods of power production, power distribution, and physics principles that are associated with both. Addresses the competencies identified by the Center for Energy Workforce Development (CEWD) organization that are needed for energy industries. Combines with the other two modules to qualify students to take the CEWD Energy Industry Fundamentals (EIF) certification. Pre-requisite: ENM 1011. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>ENM 230(3)</td>
<td>Course ID:007221 Building Automation</td>
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<td>Introduces students to the components involved in a building automated system (BAS). Investigates the communication and components contained in an integrated building system that controls various components of a building system. Lecture/Lab: 3.0 credits (60 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>ENV 110(4)</td>
<td>Course ID:001442 Introduction to Environmental Technology</td>
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<td>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). Components: Lecture Attributes: Technical</td>
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<tr>
<td>EOM 100(3)</td>
<td>Course ID:004755 Introduction to Equine Studies</td>
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<td>The intent of this course is to give students a general overview and basic understanding of the horse, its care and management. Course topics include identification, anatomy, health, nutrition, facility and equipment management. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours). Components: Laboratory, Lecture Attributes: Technical</td>
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<tr>
<td>EOM 120(3)</td>
<td>Course ID:004756 Introduction to Commercial Breeding Practices</td>
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<td>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. Pre-requisite: EOM 100 or consent of instructor. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>EQA 240(2)</td>
<td>Course ID:004852 Equine Business Management II</td>
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<td>This course is a continuation of Equine Business Management I. Topics of discussion include types of farm ownership, structure of the horse farm as a business, and evaluation of farm financial performance through production levels, employee management, tax planning, bloodstock value, cash flow and budgeting. Pre-requisite: EOM 140 and concurrent enrollment in or successful completion of ACC 201 and ECO 201, or consent of instructor. Lecture: 2 credits (30 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>EQA 242(3)</td>
<td>Course ID:004758 Equine Law</td>
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<td>This course explores the value of legal documents as they relate to commercial and recreational horse/horse farm owners. Topics discussed include review of current legislation governing horse activities, types of legal contracts, liability issues, and security interests. Pre-requisite: EOM 100 and BA 267, or consent of instructor. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
</tbody>
</table>
EQM 246(1)  Course ID:004759
Current Trends in the Equine Industry
Seminar course in the horse industry designed to provide students with the opportunity to investigate, evaluate and debate key issues confronting horse owners and horse industry participants. Students are encouraged to analyze controversial circumstances in the equine industry and provide insight and logical conclusion. Seminar topics may include such issues as equine adoption, slaughter, transport, medications, accoucheur, racing, and public image. Pre-requisite: EGM 242 or consent of instructor. Lecture 1 credit (15 contact hours).
Components: Lecture Attributes: Technical

EQM 250(3)  Course ID:004760
Equine Practicum
A supervised, field-based learning experience in the equine industry, including observation and proactive participation in affiliated environments. Students are required to analyze their experiences throughout the semester to develop career objectives and strong interpersonal, communication and leadership skills. Pre-requisite: EGM 240, EGM 242, and concurrent enrollment in or successful completion of EQM 246. Practicum: 3 credits (180 contact hours).
Components: Practicum Attributes: Technical

**EOS Equine Studies**

**EOS 104(3)**  Course ID:007321
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 credits (135 contact hours).
Components: Laboratory Attributes: Technical

**EOS 110(3)**  Course ID:005350
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 credits (45 contact hours).
Components: Lecture Attributes: Technical

**EOS 112(4)**  Course ID:005352
Instructor Consent Required
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. Pre-requisite: Department Consent. Lecture/ Lab: 4.0 credits (150 contact hours).
Components: Lecture Attributes: Technical

**EOS 113(4)**  Course ID:005353
Instructor Consent Required
Racehorse Riding Skills II
Continues development of riding skills learned in EOS 112 by applying principles to riding racehorses in morning exercise situations. 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. Pre-requisite: EOS 112 and consent of the instructor. Lecture/Lab: 4.0 credit (150 contact hours).
Components: Lecture Attributes: Technical

**EOS 115(3)**  Course ID:015655
Equine Health and Medications
Presents principles of health management as it relates to the prevention and treatment of common diseases, parasites and wounds. Pre-requisite: EOS 110 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

**EOS 118(3)**  Course ID:005803
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.
Components: Lecture Attributes: Technical

**EOS 125(3)**  Course ID:005804
Equine Nutrition
Presents principles of nutritional management as it relates to the overall health and performance of the horse. Pre-requisite: EOS 110 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

**EOS 130(3)**  Course ID:005354
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).
Components: Lecture Attributes: Technical

**EOS 200(3)**  Course ID:005500
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. Pre-requisite: EOS 110 or permission of instructor. Co-requisite: Concurrent enrollment in EOS 110. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

**EOS 223(4)**  Course ID:005507
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. Pre-requisite or Co-requisite: EOS 104. Lecture/Lab: 4.0 credit (150 contact hours).
Components: Lecture Attributes: Technical

**EOS 225(3)**  Course ID:005508
Instructor Consent Required
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: EOS 222 and permission of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

**EOS 240(3)**  Course ID:007322
Equine Legal and Business Principles
Provides legal insights and practical tips for a successful horse business. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

**EQS 299(1 - 9)**  Course ID:005626
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 in Applied Science in Equine Studies. Equine Studies Diploma and certificate program that list Equine Cooperative Education as an approved course. Pre-requisite: Consent of Instructor. Co-op: 1.0 - 9.0 credits (60 - 540 contact hours).
Components: Co-Op Attributes: Technical

**ESL English as a Second Language**

**ESL 011(4)**  Course ID:005308
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).
Components: Lecture Attributes: Remedial - Reading

**ESL 012(4)**  Course ID:005230
Intermediate Listening and Speaking
Low-intermediate level ESL students will improve comprehension and communication in English on a variety of everyday topics and in the academic setting. Students will develop and practice techniques for greater composure and confidence in oral expression. Practice will also be provided in pronunciation and intonation. Students will be recommended to this course based on the ESL placement examination or through completion of ESL 11. Lecture: 4 credits (60 contact hours).
Components: Lecture Attributes: Developmental/Remedial Learning Skills

**ESL 013(4)**  Course ID:005307
Advanced Listening and Speaking
High-intermediate level ESL students will improve comprehension and communication in both social and academic settings. Instruction will include improving listening skills for academic note taking and small group discussion. Students will be expected to lead and share in class discussions based on reading and authentic listening materials. Students will also present orally in front of the class. Students will be recommended to this course based on the ESL placement examination or through completion of ESL 12. Lecture: 4 credits (60 contact hours).
Components: Lecture Attributes: Developmental/Remedial Learning Skills
ESL 030(4) Course ID:005078
College Reading and Vocabulary Development for High-Intermediate Non-Native English Speakers
High-intermediate level ESL students will master fundamental reading skills, improve critical reading, and further vocabulary development. Students will be introduced to a variety of genres, such as newspaper articles and essays, poems, short stories, charts, graphs and college-level content textbooks. Through the selected readings, this course will foster cultural awareness, comprehension, and interaction. The readings and activities introduced in the course will allow students to engage in meaningful dialogue, and in the process, refine their English skills. Pre-requisite: ESL 020 or placement test. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Developmental/Remedial Learning Skills

ESL 031(3) Course ID:004037
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).

Components: Lecture
Attributes: Developmental/Remedial Learning Skills, Course Also Offered in Modules

ESL 051(3) Course ID:004043
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).

Components: Lecture
Attributes: Remedial - Reading

ESL 052(3) Course ID:004044
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. Pre-requisite: ESL 51. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Remedial - Reading

ESL 053(3) Course ID:004045
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. Pre-requisite: ESL 052 or placement test. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Remedial - Reading

ESL 061(4) Course ID:004046
Foundations of College Writing I for Non-Native English Speakers
Beginning level ESL students are introduced to composition with an emphasis on clarity, organization, development and correctness. Comprehensive review of mechanics, grammar and spelling as these apply to their own writing is also addressed in this course. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 062(4) Course ID:004047
Foundations of College Writing II for Non-Native English Speakers
Low-intermediate level ESL students continue to enhance their composition skills by receiving instruction in the following: writing process, organization, multi-paragraph writings, editing, and critical reading. Grammar instruction focuses on key structures and provides a springboard for expanding students' abilities in all language skills. Pre-requisite: ESL 61. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 063(4) Course ID:004048
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. Pre-requisite: ESL 62 or placement test. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 071(3) Course ID:007210
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. Pre-requisite: Placement According to KCTCS Assessment and Placement Policy. Lecture: 3.0 credit hours (45 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 072(3) Course ID:007046
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. Pre-requisite: Currently appropriate assessment scores and a writing sample or completion of ESL 71. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 081(3) Course ID:007211
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. Pre-requisite: Placement According to KCTCS Assessment and Placement Policy. Lecture: 3.0 credit hours (45 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 082(3) Course ID:007047
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. Includes basic sentence patterns and basic parts of speech. Credit is not given to students who have received credit for both ESL 82 and ESL 62. Pre-requisite: Currently appropriate assessment scores or completion of ESL 81. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 090(4) Course ID:005079
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).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 091(4) Course ID:005080
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. Pre-requisite: placement test. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 092(4) Course ID:005082
Advanced Writing for Non-Native English Speakers
ESL 92 is designed to help students prepare for ENG 101. High-intermediate level ESL students prepare for ENG 101 and work on the writing process, editorial improvement, and critical reading. Students will be introduced to documenting sources. Grammar instruction includes advanced grammatical points. Pre-requisite: ESL 91 or placement test. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Remedial - English and Writing

ESL 100(3) Course ID:016566
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.

Components: Lecture
Attributes: Enrichment ESL, University Course (University of Kentucky)

ESL 110(3) Course ID:016517
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. Pre-requisite: KCTCS assessment instrument scores as shown in Mandatory Placement policy. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Enrichment ESL, University Course (University of Kentucky)

ESL 120(3) Course ID:016568
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. Pre-requisite: KCTCS assessment instrument scores as shown in Mandatory Placement policy. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: University Course (University of Kentucky)
ESL 130(3) Course ID:016518
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. Pre-requisite: KCTCS assessment instrument scores as shown in Mandatory Placement policy. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Enrichment ESL, University Course (University of Kentucky)

ESL 0311(1) Course ID:007396
ESL Greetings & Farewells
Highlights greetings and introductions, giving and receiving personal information, and making plans and discussing the future. Introduces expressing the future using the verb “to go.” Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Developmental/Remedial Learning Skills

ESP Energy Systems

ESP 101(3) Course ID:005324
Introduces energy generating systems including solar, wind, bioenergy, geothermal, hydroelectric, hydrogen-based, petrochemical, coal, and nuclear. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ESP 213(3) Course ID:005322
Power Plant Operations III
Provides detailed training in the operations of water, steam, turbines and generator systems of a coal-fired (fossil fueled) power plant stressing proper operation during normal operations, startups and shutdowns, and transient conditions. Pre-requisite: ESP 211 or consent of the instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ESP 214(3) Course ID:005321
Power Plant Operations IV
Provides detailed training in the operation of the auxiliary components of a power plant, including valves, traps, actuators, pumps, couplings, air compressors, seals, lubrication systems, air ejectors, heat exchangers, and switches. Proper operation of each type of component and its function in the plant will be stressed. Pre-requisite: ESP 211 or consent of the instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ESP 220(3) Course ID:005495
Power Plant Thermodynamics
Introduces basic thermodynamic concepts and the applications of thermodynamics in a fossil-fueled power plant. Pre-requisite: PHY 151 or higher. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

ESP 280(2) Course ID:005496
Capstone in Energy Systems
Serves as the capstone course for the Energy Systems program by integrating prior learning into a single integrated learning experience. Requires planning, research, and completion of both individual and team-based reports based on real-world problems or projects in the Energy Systems field. Pre-requisite: ESP 213. Lecture : 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EST Environmental Science Technology

EST 150(4) Course ID:004744
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 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).
Components: Laboratory, Lecture
Attributes: SL - Science Laboratory, SN - Science

EST 160(3) Course ID:004745
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).
Components: Lecture
Attributes: SN - Science

EST 161(1) Course ID:017027
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. Pre-requisite or Co-requisite: If yes, list: EST 160 Hydrologic Geology or approval of the Environmental Science Technology Program Coordinator. Lab 1 credit (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

EST 170(2) Course ID:004746
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 ambient invertebrates. Laboratory: 2 credits (60 contact hours). Pre-requisite: EST 150 or consent of instructor.
Components: Laboratory
Attributes: Technical

EST 220(3) Course ID:004747
Pollution of Aquatic Ecosystems
This course 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. Methods to minimize or eliminate the sources and effects of pollutants are also explored. Pre-requisite or concurrent: EST 150, EST 160, CHE 105, and CHEM 105 or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EST 230(2) Course ID:004748
Aquatic Chemistry Laboratory
This course provides focused study on the chemistry of water. The course will provide students with laboratory experience in analyzing surface, ground, and drinking waters for a variety of chemical constituents. Laboratory: 2 credits (60 contact hours). Pre-requisite: CHE 105, CHEM 105, and Pre-requisite or concurrent EST 220.
Components: Laboratory
Attributes: Technical

EST 240(4) Course ID:004749
Sources and Effects of Air Pollution
This course provides an introduction to the study of ambient and indoor air pollution with an emphasis on sources, dispersion, and health and welfare effects of the major pollutants. Both regulatory and engineering controls of stationary and mobile sources are explored. A laboratory provides experience with sampling and analysis of air pollutants. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (30 contact hours). Pre-requisite: EST 150 and CIT 130, or equivalent, or consent of instructor.
Components: Lecture
Attributes: Technical

EST 250(3) Course ID:004750
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. Pre-requisite: EST 150 and EST 160, or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

EST 260(2) Course ID:004751
Environmental Analysis Laboratory
This course provides an introduction to the fundamentals of analyzing environmental media. The course will provide students with laboratory experience in analyzing soil, surface water, groundwater, air and microbial samples. Laboratory: 2 credits (60 contact hours). Pre-requisite: CHE 105, CHEM 105 and pre-requisite or concurrent EST 170.
Components: Laboratory
Attributes: Technical

EST 270(3) Course ID:004752
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).
Components: Lecture
Attributes: Technical

EST 290(2) Course ID:017026
Applied Projects in Environmental Science Technology
Outlines varies as determined by project and instructor. Pre-requisite: Consent of EST Program Coordinator. Lecture: 1 credit (15 contact hours). Lab: 1 credit (30 contact hours).
Components: Lecture
Attributes: Technical

EST 299(1 - 3) Course ID:004754
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lecture: 1-3 credits (15-45 contact hours).
Components: Lecture
Attributes: Technical

281
FIR 261(3)  Course ID:017544
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-requisite or Co-requisite: FIR 260 or Instructor Consent.
Components: Lecture
Attributes: Technical

FIR 262(3)  Course ID:017545
Fire Behavior and Combustion
Explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. Pre-requisite or Co-requisite: FIR 260 or Instructor Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 263(3)  Course ID:017546
Fire Service Safety & Wellness
Introduces the basic principles and history related to the national firefighter safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Pre-requisite or Co-requisite: FIR 260 or Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 264(3)  Course ID:017547
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. Pre-requisite or Co-requisite: FIR 260 Or Instructor Consent. Lecture: credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 265(3)  Course ID:017548
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. Pre-requisite or Co-requisite: FIR 260 or Instructor Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 280(3)  Course ID:017549
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. Pre-requisite: Instructor Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 281(3)  Course ID:017550
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. Pre-requisite: Instructor Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 282(3)  Course ID:017551
Strategy and Tactics
Provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents. Pre-requisite: Instructor Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FIR 1071(0.26)  Course ID:017497
First Aid
Introduces students to basic concepts of first aid, such as offering initial care for traumatic and medical emergencies. Components: Lecture

FLK Folk Studies
FLK 276(3)  Course ID:004779
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).
Components: Lecture
Attributes: AH - Arts and Humanities, AH - Arts and Humanities

FLK 280(3)  Course ID:004780
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).
Components: Lecture
Attributes: SB - Social Behavior Science, Other

FLM Filmmaking
FLM 112(4)  Course ID:016196
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. Co-requisite: (FLM 112 AND FLM 113 AND FLM 140) OR Consent of Instructor. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

FLM 122(4)  Course ID:016197
Filmmaking: Storyboard through Production
Provides project-based instruction on basics of film production. Familiarizes students with directing, lighting, set design, cinematography, and audio. Co-requisite: (FLM 112 AND FLM 132 AND FLM 140) OR Consent of Instructor. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

FLM 132(4)  Course ID:016198
Filmmaking: Editing through Distribution
Provides experience in graphic design, editing, music production, and promotion. Emphasizes preparation for entry-level positions in the industry. Co-requisite: (FLM 112 AND FLM 122 AND FLM 140) OR Consent of Instructor. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

FLM 140(2)  Course ID:016199
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. Co-requisite: (FLM 112 AND FLM 122 AND FLM 132) OR Instructor Consent. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

FLM 182(3)  Course ID:017462
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).
Components: Lecture
Attributes: Technical

FLM 190(3)  Course ID:016193
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)
Components: Lecture
Attributes: Technical

FLM 191(1)  Course ID:017463
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).
Components: Laboratory
Attributes: Technical

FLM 210(3)  Course ID:007266
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. Pre-requisite:(FLM 112 AND FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FLM 260(3)  Course ID:007266
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. Pre-requisite: (FLM 112 AND FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor. Lecture/Lab: 3.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

FLM 261(3)  Course ID:017464
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. Pre-requisite: FLM 112 AND FLM 122 AND FLM 132 AND FLM 140 AND FLM 260. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

FLM 291(3)  Course ID:016194
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, attending guest lectures, and on-the-job training. Pre-requisite: (FLM 112 AND FLM 122 AND FLM 132 AND FLM 140) OR Consent of Instructor. Pre-requisite or Co-requisite: (FLM 260 AND FLM 289) OR Consent of Instructor. Practicum: 3.0 credits (150 contact hours).
Components: Practicum
Attributes: Technical

FLK 1071(0.26)  Course ID:017497
First Aid
Introduces students to basic concepts of first aid, such as offering initial care for traumatic and medical emergencies. Components: Lecture

283
FPX 299(3) Course ID:016195
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).
Components: Lecture
Attributes: Technical

FPX 100(3) Course ID:001464
Fluid Power
Includes fluid power theory, component identification and application, schematic reading, and basic calculations related to pneumatic and hydraulic systems and their operations. Co-requisite: FPX 101 or Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

FPX 101(2) Course ID:001465
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 pneumatic and hydraulic systems and their operations. Covers higher level schematic and design as well as the specifics involved with components and operation. Covers the methodologies required when servicing a typical hydraulic system. Includes a general discussion on the safe working practices required with fluid power systems. Co-requisite: FPX 101 or Consent. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

FPX 1001(0.3) Course ID:005625
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. Co-requisite: FPX 101 or Consent. Lecture: .3 credit (4.5 contact hours).
Components: Lecture

FPX 1002(0.3) Course ID:005674
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. Co-requisite: FPX 101 or Consent. Lecture: .3 credit (4.5 contact hours).
Components: Lecture

FPX 1003(0.4) Course ID:005675
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. Co-requisite: FPX 101 or Consent. Lecture: .4 credit (6.0 contact hours).
Components: Lecture

FPX 1004(1) Course ID:005642
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 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. Co-requisite: FPX 101 or Consent. Lecture: 1 credit (15 contact hours).
Components: Lecture

FPX 1005(1) Course ID:005643
Pneumatic Systems and Components
Introduces the basic fundamentals of pneumatic component and operation. Covers higher level schematic layout and design as well as the specifics involved with the actual component selection. Provides the opportunity
FRM 150(3) Course ID:017578 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: Students must be 21 years of age, FRM 100 & FRM 110. Pre-requisite or Co-requisites: FRM 130 & FRM 140. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical
FRM 160(2) Course ID:017579 Beverage Packaging Prepares students in all aspects of packaging of fermented beverages to include kegging, canning, and bottling operations in a brewery. Pre-requisite: Students must be 21 years of age, FRM 100 & FRM 110. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

FRT Fire/Rescue Training

FRT 083(0.1 - 6) Course ID:005311 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 - 60 contact hours).
Components: Lecture

FWT Fixed Wing Flight Training

FWT 101(4) Course ID:017519 Private Pilot Fixed Wing Ground School Covers fundamentals of fixed wing flight, flight operations, aviation weather, performance, navigation, aircraft systems, aeronaautical 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).
Components: Lecture Attributes: Technical
FWT 102(2) Course ID:017520 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. Pre-requisites: FWT 101 and Proof of valid Second Class (or higher) Medical Certificate. Lab: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical
FWT 103(4) Course ID:017521 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. Pre-requisites: FWT 101, FWT 102. Lecture: 4.0 credits (60 contact hours).
Components: Lecture Attributes: Technical
FWT 104(2) Course ID:017522 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. Pre-requisites: FWT 101, FWT 102, and FWT 103. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical
FWT 105(3) Course ID:017523 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. Pre-requisites: FWT 101, and FWT 102 or Private Pilot Certificate, and FWT103. Co-requisite: FWT104. Lecture: 3.0 credits (45 contact hours).
Components: Laboratory Attributes: Technical
FWT 106(2) Course ID:017524 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. Pre-requisites: FWT 101, FWT 102, FWT 103, FWT 104, and FWT 105. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical
FWT 107(4) Course ID:017525 Certified Flight Instructor Fixed Wing 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 FAA Certified Flight Instructor Practical Test Standard (PTS) exam. Pre-requisites: FWT 101 (or Private Pilot Certificate), FWT 102, FWT 103, FWT 104, FWT 105 and FWT106. Lecture: 4.0 credits (60 contact hours).
Components: Lecture Attributes: Technical
FWT 108(2) Course ID:017526 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. Pre-requisites: FWT 101, FWT 102, FWT 103, FWT 104, FWT 105, and FWT 107. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical
FWT 110(2) Course ID:017527 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. Pre-requisites: FWT 101, FWT 102, FWT 103, FWT 104, FWT 105, FWT 106, FWT 107, FWT 108, and FWT 109. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical

FYE Achieving Academic Success

FYE 100(1) Course ID:007399 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).
Components: Lecture Attributes: College Success, Other, Course Also Offered in Modules, Enrichment 1st Year Experience
FYE 105(3) Course ID:007213 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).
Components: Lecture Attributes: College Success, Other, Course Also Offered in Modules, Enrichment 1st Year Experience
FYE 1001(0.4) Course ID:007400 Introduction to the College Campus Introduces students to campus resources to promote academic and personal success. NOTE: Students may not receive credit for both FE 100 and FYE 105. Lecture: 0.4 credits (6 contact hours).
Components: Lecture Attributes: Enrichment 1st Year Experience
FYE 1002(0.3) Course ID:007401 Self-Management Skills Introduces students to strategies and resources to promote personal responsibility for self-management skills. NOTE: Students may not receive credit for both FYE 100 and FYE 105. Lecture: 0.3 credits (4.5 contact hours).
Components: Lecture Attributes: Enrichment 1st Year Experience
FYE 1003(0.3) Course ID:007402 Academic and Career Choices Introduces students to strategies and resources to promote development of academic and career choices. NOTE: Students may not receive credit for both FYE 100 and FYE 105 Lecture: 0.3 credits (4.5 contact hours).
Components: Lecture Attributes: Enrichment 1st Year Experience
FYE 1051(1) Course ID:007403
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).
Components: Laboratory
Attributes: Enrichment 1st Year Experience
FYE 1052(1) Course ID:007404
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)
Components: Lecture
Attributes: Enrichment 1st Year Experience
FYE 1053(1) Course ID:007405
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).
Components: Lecture
Attributes: Enrichment 1st Year Experience

GEN General College Studies

GEN 091(3) Course ID:007368
Foundations of Information Literacy
Introduces information literacy skills. Focuses on skills related to defining information needs, finding sources, using information to solve problems, organizing and presenting information, and evaluating. Pre-requisite: COMPASS Reading Score of 60+ OR English Score of 39+. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Developmental/Remedial Learning Skills

GEN 100(1) Course ID:008071
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).
Components: Lecture
Attributes: Other, Course Also Offered in Modules, Enrichment 1st Year Experience

GEN 102(3) Course ID:008072
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).
Components: Lecture
Attributes: Course Also Offered in Modules, Enrichment Study Skills

GEN 103(1) Course ID:005328
Instructor Consent Required
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. Pre-requisite: Sophomore status and consent of instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture
Attributes: Other

GEN 104(2) Course ID:005329
Instructor Consent Required
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. Pre-requisite: GEN 103 and consent of GEN 100 instructor and Sophomore status. Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Other

GEN 120(3) Course ID:003864
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).
Components: Lecture
Attributes: Other

GEN 122(1) Course ID:003871
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).
Components: Lecture
Attributes: Other

GEN 123(1-3) Course ID:003872
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. Pre-requisite: GEN 122. Lecture: 1 - 3 credits (15 to 45 contact hours).
Components: Laboratory, Lecture

GEN 125(3) Course ID:006590
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).
Components: Lecture
Attributes: Other

GEN 130(3) Course ID:005055
Introduction to Information Resources
Provides basic concepts of the information society including different types of libraries and electronic resources, such as the internet, online databases, and information management software. Focuses on the nature of information, computer technology, and ethical computing issues. Lecture: 3 credits (45 contact hours).
Components: Lecture

GEN 131(1) Course ID:005524
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).
Components: Lecture

GEN 140(3) Course ID:000179
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture

GEN 150(1) Course ID:005089
Basic Computer Skills
Provides an introduction to commonly-used computing functions, emphasizing information processing, hands-on experience, and software packages. (This course does not meet the KCTCS computer literacy requirement.). Lecture / Lab: 1 credit (15 contact hours).
Components: Laboratory, Lecture
Attributes: Computer Literacy, Other

GEN 175(3) Course ID:006594
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).
Components: Lecture
Attributes: Other, Course Also Offered in Modules

GEN 225(3) Course ID:006601
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. Pre-requisite: GEN 175 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: SB - Social Behavior Science, Course Also Offered in Modules

GEN 240(3) Course ID:015506
Leadership Applications
Connects the principles of transformational leadership with personal behavior by building a base of leadership theory for a practical philosophy. Engages students in directed projects and case studies to put theory into practice. Provides instruction directly related to integrity, planning, alignment, decision-making, fostering understanding, change-management, relationships, internal locus of control, trust, respect, image-projection, influence, and building a following. Pre-requisite: GEN 140 or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Other

GEN 276(1) Course ID:004489
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).
Components: Lecture
Attributes: Enrichment Career Counseling, Technical

GEN 1021(1) Course ID:007078
College Basics & Learning Styles
Presents an overview to campus and online resources, policies, and procedures including diversity. Presents strategies for identifying personal learning, self-management, and career exploration tools. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

GEN 1022(1) Course ID:007079
Critical Reading and Thinking
Presents strategies and tools to promote critical reading and thinking. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

GEN 1023(1) Course ID:007080
Classroom Skills and Test-taking
Presents strategies and tools to promote classroom and test-taking skills. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

GEO Geography

GEO 130(3) Course ID:000351
Earth's Physical Environment
A course exploring the fundamental characteristics
of earth’s physical environment. Emphasis is placed on identifying interrelationships between atmospheric processes involving energy, pressure, and moisture; weather and climate, and terrestrial processes of vegetation, soils, and landscape formation and change. Fullfillls elementary certification requirements in education, and USP cross-disciplinary requirement. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

GEOL 133(1) Course ID:017639
Resilient Gardening Laboratory
Emphasizes basic laboratory studies of identifying interrelationships between atmospheric processes involving energy, pressure, and moisture; weather and climate, and terrestrial processes of vegetation, soils, and landscape formation and change. Pre-requisite or Co-requisite: GEOL 130. Laboratory: 1 credit (30 contact hours).

Components: Laboratory
Attributes: Other

GEO 133(1) Course ID:017508
Resilient Gardening Laboratory
Provides applications of ecological and geographical concepts, including activities related to the lithosphere, atmosphere, hydrosphere, and biosphere such as tree identification and care, soil analysis and care, pollinators and other beneficial insects, companion planting, solar requirements of plants, and water conservation. Pre-requisite or Co-Requisite: GEO 130 or BIO 120. Laboratory: 1.0 credit hour (30 contact hours).

Components: Laboratory
Attributes: Other

GEO 152(3) Course ID:000398
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).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

GEO 160(3) Course ID:000422
Introduction to Global Environmental Issues
This course addresses environmental questions of global importance, including population growth, resource consumption, environmental degradation, biodiversity conservation, toxic contamination and environmental justice. (Fullfills Gen Ed Global Dynamics requirement at the University of Kentucky.) Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

GEO 163(3) Course ID:007195
Global Conflicts
This course will focus on the dynamics and effective of conflicts over boundaries, territory, environmental resources, and civil and political rights. A geographic lens will be used to understand contemporary world conflicts. This course introduces students to an understanding of conflict as both grounded in localities and an effect of global interconnections - political, economic, and cultural. The course will focus on six major contemporary conflicts: Students will become versed in the debates and possible options for solution of these problems. While lectures will provide students with an understanding of the coordinates of the conflicts, recitations sections provide an opportunity for discussion and debate. The readings are chosen to supplement lecture material, providing a greater depth of understanding of the issues at stake. (Fullfills the Global Dynamics requirement of General Education at the University of Kentucky.) Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science, University Course (University of Kentucky)

GEO 172(3) Course ID:000158
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).

Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

GEO 210(3) Course ID:000610
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. Fullfills USP Cross-Disciplinary requirement. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: SB - Social Behavior Science

GEO 222(3) Course ID:000482
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).

Components: Lecture
Attributes: SB - Social Behavior Science

GEO 240(3) Course ID:000434
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. Stress the importance of gender relations in understanding a variety of issues through the application of case studies 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).

Components: Lecture
Attributes: SB - Social Behavior Science

GEO 251(3) Course ID:000659
Weather and Climate
A survey of 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 of promoting understanding of general weather analysis and forecasting, severe storms, atmospheric pollution, descriptive climatology, and global climate change. Pre-requisite: GEO 130 or consent of instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

GEO 280(4) Course ID:017173
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).

Components: Integrated Laboratory, Integrated Lecture
Attributes: SL - Science Laboratory, SN - Science

GEO 299(1 - 3) Course ID:017372
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. Pre-requisite: Consent of Instructor. Lecture: Variable.

Components: Lecture
Attributes: Other

GER 101(4) Course ID:000864
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).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

GER 102(4) Course ID:000759
Elementary German II
Continues the fundamentals of GER 101 with further development of the four basic skills: reading, writing, listening, and speaking. Pre-requisite: GER 101 or Consent of Instructor. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

GER 201(3) Course ID:000880
Intermediate German I
Includes the systematic review of grammar and furthering of reading, writing, listening, and speaking skills based upon cultural and literary materials. Pre-requisite: GER 102, or equivalent or placement test. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

GER 202(3) Course ID:000820
Intermediate German II
Continues the study of intermediate German through grammar, reading, and oral practice. Pre-requisite: GER 201 or equivalent or placement test. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

GIS 145(3) Course ID:016881
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. Pre-requisite or Co-requisite: CIT 125 or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

GIS 210(3) Course ID:005042

Advanced Topics in GIS

Explores advanced topics in GIS. Teaches students how to create and import geodatabases into a GIS, edit and create new vector and raster data, build layouts for presentation purposes and manipulate tabular data. Exposes students to various extensions within the software in order to conduct advanced analyses on their data. Pre-requisite: GIS 120. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

GIS 255(3) Course ID:016862

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. Pre-requisite: CIT 125 or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

GIS 260(3) Course ID:016863

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. Pre-requisite: CIT 125 or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

GLY 101(3) Course ID:000878

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).

Components: Lecture
Attributes: SN - Science

GLY 102(3) Course ID:000757

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 lectures, field trips and out-of-class exercises. Gives attention to the development of the basic principles used in interpretation. Pre-requisite: GLY 101 and GLY 111 or consent of the instructor. Co-requisite: GLY 112. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

GLY 110(3) Course ID:002218

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 the causes and prediction of environmental hazards including floods, landslides, subsidence, earthquakes and volcanoes. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

GLY 111(1) Course ID:000544

Physical Geology Laboratory

Identify minerals and rocks in hand specimens, interpret landscape features as shown on topographic maps, and study geologic maps. Co-requisite: GLY 101. Laboratory: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: SL - Science Laboratory

GLY 112(1) Course ID:000548

Historical Geology Laboratory

Interpret geologic maps and cross-sections, and study important invertebrate fossil groups. Requires one field trip. Pre-requisite: GLY 101 and GLY 111 or consent of the instructor. Co-requisite: GLY 102. Lab: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: SL - Science Laboratory

GLY 114(1) Course ID:015662

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. Pre-requisite or Co-requisite: GLY 110. Lab: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: SL - Science Laboratory

GLY 125(3) Course ID:016917

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 interior 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 national history and environment. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: SN - Science

GLY 130(3) Course ID:003781

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.

Components: Lecture
Attributes: SN - Science

GLY 131(1) Course ID:007361

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. Pre-requisite or Co-requisite: GLY 130. Lab: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: SL - Science Laboratory

GLY 140(3) Course ID:016864

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).

Components: Lecture
Attributes: SN - Science

GLY 220(4) Course ID:000847

Principles of Physical Geography

Learn how the Earth works: an integrated course in physical geography, 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).

Components: Lecture
Attributes: SL - Science Laboratory, SN - Science
of programming languages, networking, and data communication about Health IT Systems. Pre-requisite or Co-requisite: CIT 105 or Consent of Instructor. Lecture: 1.0 credits (15 contact hours).

Components: Lecture
Attributes: Technical

HCS 210(3) Course ID:016978
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. Pre-requisite or Co-requisite: AHCS 145 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HCS 220(1) Course ID:016979
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).

Components: Lecture
Attributes: Technical

HCS 230(2) Course ID:016980
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). Pre-requisite or Co-requisite: HCS 200 or Consent of Instructor. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical

HCS 260(1) Course ID:016981
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. Pre-requisite or Co-requisite: HCS 165 or Consent of Instructor. Lecture: 1.0 credits (15 contact hours).

Components: Lecture
Attributes: Technical

HCS 280(1) Course ID:016982
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).

Components: Lecture
Attributes: Technical

HCS 281(1) Course ID:016983
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).

Components: Lecture
Attributes: Technical

HCS 290(1) Course ID:016984
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. Pre-requisite or Co-requisite: HCS 150 or Consent of Instructor. Lecture: 1.0 credits (15 contact hours).

Components: Lecture
Attributes: Technical

HCS 295(1) Course ID:016985
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. Pre-requisite or Co-requisite: Consent of Instructor. Lecture: 1.0 credits (15 contact hours).

Components: Lecture
Attributes: Technical

HEO 106(7) Course ID:001522
Motorgrader Operator
Examines a broad base of skills required to operate heavy equipment with an emphasis on safety. Operation of a Motor-Grader will be learned by students. Pre-requisite: DIT 103. Lab: 7.0 credits (315 contact hours).

Components: Laboratory
Attributes: Technical

HEO 107(7) Course ID:015676
Utility Tractor Loader Operator
Provides a broad base of skills required to operate heavy equipment with an emphasis on safety. Focuses on job awareness and industry requirements. Permits experience on dump truck and utility tractor loader. Pre-requisite or Co-requisite: DIT 103. Lab: 7.0 credits (210 contact hours).

Components: Laboratory
Attributes: Technical

HEO 110(7) Course ID:015677
Power Shovel Backhoe Operator
Presents a background in the operation, maintenance, and safety considerations for a dump truck and power shovel backhoe. Pre-requisite or Co-requisite: DIT 103. Lab: 7.0 credits (210 contact hours).

Components: Laboratory
Attributes: Technical

HEO 111(7) Course ID:001524
Bulldozer Operator
Presents a background in the operation, maintenance, and safety considerations for a dump truck and bulldozer. Pre-requisite: DIT 103. Lab: 7.0 credits (210 contact hours).

Components: Laboratory
Attributes: Technical

HEO 115(7) Course ID:004571
Hydraulic Excavator Operator
Covers a broad base of skills required to operate heavy equipment safely. Includes theory, equipment types, controls, and common work activities associated with excavators. Pre-requisite or Co-requisite: DIT 103. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HEO 120(7) Course ID:001525
Power Shovel Backhoe Operator
Identifies and describes the common uses, types, 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. Pre-requisite or Co-requisite: DIT 103. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HEO 125(9) Course ID:016986
Special Problems I
Reinforces material presented in HEO 150, 200, and 250. Discusses job orientation, blueprint reading, and equipment operation. Pre-requisite Or Co-requisite: DIT 103. Lab: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

HEO 130(5) Course ID:017609
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. Pre-requisite or Co-requisite: DIT 103. Laboratory: 5 credits (150 contact hours).

Components: Laboratory
Attributes: Technical

HEO 131(5) Course ID:017606
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 bulldozers. Pre-requisite or Co-requisite: DIT 103. Laboratory: 5 credits (150 contact hours).

Components: Laboratory
Attributes: Technical

HEO 132(5) Course ID:017610
Utility Tractor Loader Operator
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). Pre-requisite or Co-requisite: HCS 200 or Consent of Instructor. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical

HEO 133(5) Course ID:017608
Motor Grader Loader Operator
Covers a broad base of skills required to operate heavy equipment with an emphasis on safety. Focuses on job awareness and industry requirements. Permits experience on dump truck and utility tractor loader. Pre-requisite or Co-requisite: DIT 103. Laboratory: 5 credits (150 contact hours).

Components: Laboratory
Attributes: Technical

HEO 134(5) Course ID:017607
Hydraulic Excavator Operator
Covers a broad base of skills required to operate heavy equipment safely. Includes theory, equipment types, controls, and common work activities associated with excavators. Pre-requisite or Co-requisite: DIT 103. Laboratory: 5 credits (150 contact hours).

Components: Laboratory
Attributes: Technical

HEO 141(3) Course ID:017611
Heavy Equipment Operating I
Instructions 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. Pre-requisite or Co-requisite: DIT 103. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HEO 151(6) Course ID:015678
Heavy Equipment Operating I
Covers a broad base of skills required to operate heavy equipment safely. Includes theory, equipment types, controls, and common work activities associated with excavators. Presents safety guidelines, prestart inspection procedures, and preventive maintenance requirements. Describes basic startup and operation, and covers common work activities associated with excavators. Pre-requisite or Co-requisite: DIT 103. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HEO 201(6) Course ID:015679
Heavy Equipment Operating II
Covers a broad base of skills required to operate heavy equipment safely. Includes theory, equipment types, controls, and common work activities associated with excavators. Presents safety guidelines, prestart inspection procedures, and preventive maintenance requirements. Describes basic startup and operation, and covers common work activities associated with excavators. Pre-requisite or Co-requisite: DIT 103. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical
HEO 211(3) Course ID:017612
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. Pre-requisite: HEO 141. Laboratory: 3 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

HEO 225(3) Course ID:001528
Special Problems II
Reinforces material presented in HEO 150, 200, and 250. Instructs all facets of project control. Pre-requisite Or Co-requisite: DIT 103. Lab: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

HEO 231(3) Course ID:017613
Heavy Equipment Operating III
Reinforces material presented 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. Pre-requisite: HEO 211. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HEO 251(6) Course ID:015680
Heavy Equipment Operating III
Reinforces material presented in HEO 151 and 201. Provides advanced instruction for students in the operation of heavy equipment such as bulldozers, backhoes, front end loaders, graders, and scrapers. Explains advanced techniques of operation such as digging, ditching, sloping, stripping, grading, backfilling, clearing fields, and foundation excavating. Pre-requisite or Co-requisite: DIT 103. Lecture: 6.0 credits (90 contact hours).

Components: Lecture
Attributes: Technical

HFL Healthcare Facility Management
HFL 100(3) Course ID:015593
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).

Components: Lecture
Attributes: Technical

HFL 230(3) Course ID:015667
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. Develops standard specific policies and procedures, such as National Fire Protection Association (NFPA) 59 electrical equipment safety inspection requirements. Pre-requisite: HFL 130 Compliance, Codes and Standards I. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HFL 240(3) Course ID:015668
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. Maintains control access and key control systems 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. Pre-requisite: HFL 140 Maintenance and Operations I. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HFL 250(3) Course ID:015669
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. Pre-requisite: HFL 150 Planning, Design and Construction I. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

HFL 260(3) Course ID:015670
Healthcare Facilities Leadership Capstone I

Components: Lecture
Attributes: Technical
### HFT Helicopter Flight Training

**HFT 101(4)** Course ID:017509  
**Private Helicopter Pilot**  
Covers fundamentals of helicopter flight, flight operations, aviation weather, performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, and human factors. Prepares students to take the Federal Aviation Administration Helicopter Private Pilot Practical Test Standards examination. Pre-requisite: HFT 101 and Proof of valid Second Class (or higher) Medical Certificate. Laboratory: 2.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HFT 102(2)** Course ID:017510  
**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. Pre-requisite: HFT 101 and Proof of valid Second Class (or higher) Medical Certificate. Laboratory: 2.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HFT 103(4)** Course ID:017511  
**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. Pre-requisite: HFT 101. Lecture: 4.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HFT 104(2)** Course ID:017512  
**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. Pre-requisites: HFT 101, HFT 102, and HFT 103. Laboratory: 2.0 credits (60 contact hours).  
Components: Laboratory  
Attributes: Technical

**HFT 105(4)** Course ID:017513  
**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. Pre-requisite: HFT 101 or Private Pilot Certificate. Lecture: 4.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HFT 106(2)** Course ID:017514  
**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. Pre-requisites: HFT 101, HFT 102, HFT 103, HFT 104, and HFT 105. Laboratory: 2.0 credits (60 contact hours).  
Components: Laboratory  
Attributes: Technical

**HFT 107(4)** Course ID:017515  
**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 FAA Certified Flight Instructor Airmen Knowledge Exam. Pre-requisites: HFT 101 (or Private Pilot Certificate), HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, Lecture: 4.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HFT 108(2)** Course ID:017516  
**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 Certified Helicopter Flight Instructor Practical Test Standards (PTS) exam. Pre-requisites: HFT 101, HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, and HFT 107. Laboratory: 2.0 credits (60 contact hours).  
Components: Laboratory  
Attributes: Technical

**HFT 109(4)** Course ID:017517  
**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 airmen knowledge exam. Pre-requisites: HFT 101 (or Private Pilot Certificate), HFT 101, HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, HFT 107 and HFT 108. Lecture: 4.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HFT 110(2)** Course ID:017518  
**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 Certified Helicopter Flight Instructor Instrument Practical Test Standards (PTS) exam. Pre-requisites: HFT 101, HFT 102, HFT 103, HFT 104, HFT 105, HFT 106, HFT 107 and HFT 108. Lecture: 4.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

**HIM Historic Information Management**

**HIM 210(3)** Course ID:004306  
**Archives Studies: Appraisal & Accessioning**  
This course provides an in-depth examination of the information appraisal and accession process in archives work. Topics covered include intellectual content, documentation strategies, appraisal theories, and accessioning practices. Students are expected to complete an accession record, including records transmitted form, deed of gift, and accession form. Pre-requisite: HIM 102. Lecture: 3 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical

**HIS History**

**HIS 101(3)** Course ID:004493  
**World Civilization I**  
Presents a multicultural survey of world cultures and global issues from ancient to medieval times. Lecture: 3 credits (45 contact hours).  
Components: Lecture  
Attributes: Cultural Studies, AH - Arts and Humanities

**HIS 102(3)** Course ID:004675  
**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).  
Components: Lecture  
Attributes: Cultural Studies, AH - Arts and Humanities

**HIS 103(4)** Course ID:000860  
**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).  
Components: Lecture  
Attributes: AH - Arts and Humanities

**HIS 105(3)** Course ID:000834  
**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).  
Components: Lecture  
Attributes: AH - Arts and Humanities

**HIS 106(3)** Course ID:000532  
**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).  
Components: Lecture  
Attributes: AH - Arts and Humanities

**HIS 107(3)** Course ID:000535  
**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).  
Components: Lecture  
Attributes: AH - Arts and Humanities

**HIS 108(3)** Course ID:000542  
**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).  
Components: Lecture  
Attributes: AH - Arts and Humanities, Course Also Offered in Modules

**HIS 109(3)** Course ID:000171  
**History of the United States Since 1865**  
Examines 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).  
Components: Lecture  
Attributes: AH - Arts and Humanities, Course Also Offered in Modules

**HIS 120(3)** Course ID:000348  
**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).  
Components: Lecture  
Attributes: AH - Arts and Humanities
HIS 1092(0.75) Course ID:006240
History of the United States from Imperialism through World War I
Examines key political, economic, and social topics from the Progressive Era through World War I and the 1920s that have significantly influenced the American experience. Pre-requisite: HIS 1091. Lecture: 0.75 credit (11.25 contact hours).
Components: Lecture

HIS 1093(0.75) Course ID:006241
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. Pre-requisite: His 1092. Lecture: 0.75 credit (11.25 contact hours).
Components: Lecture

HIS 1094(0.75) Course ID:006242
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. Pre-requisite: HIS 1093. Lecture: 0.75 credits (11.25 contact hours).
Components: Lecture

HIT 100(3) Course ID:004260
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: 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. Pre-requisite Or Co-requisite: [(BIO 135 or BIO 137) and (CLA 131 or AHS 115 or MIT 103)]. Minimum grade of C. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

HIT 105(4) Course ID:007081
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. Pre-requisite or Co-requisite: [HIT 100 and (BIO 135 or BIO 137) and (CLA 131 or AHS 115 or MIT 103)]. Minimum grade of C. Lecture: 4.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

HIT 109(4) Course ID:007083
Clinical Classification Systems I
Applies current government-mandated diagnosis and procedure coding systems in a health care setting. Pre-requisite: HIT 105. Minimum grade C. Pre-requisite or Co-requisite: BIO 139 (if BIO 137 taken), Minimum grade C. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

HIT 110(2) Course ID:004265
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: 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. Pre-requisite Or Co-requisite: HIT 100. Minimum grade of "C". Lecture: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical

HIT 112(3) Course ID:004266
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. Pre-requisite: Admission to the Health Information Technology Program or Medical Record Coding Certificate or by special permission of the Program Coordinator. [Computer/ Digital Literacy and (BIO 135 or BIO 137) and HIT 100 and HIT 105], Minimum grade of C. Pre-requisite Or Co-requisite: BIO 139 (if BIO 137 was taken), Minimum grade of C. Lecture 2.5 credits (37.5 contact hours). Lab: 0.5 credits (15 contact hours).
Components: Laboratory, Lecture Attributes: Technical

HIT 200(3) Course ID:004268
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. 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). Minimum grade of "C", Pre-requisite Or Co-requisite: (CIT 130 or QST 240), Minimum grade of "C", Lecture: 2.5 credits (37.5 contact hours), Laboratory: 0.5 credits (15 contact hours).
Components: Laboratory, Lecture Attributes: Technical

HIT 202(3) Course ID:004269
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. Pre-requisite: Admission to the Health Information Technology Program or Medical Record Coding Specialist Certificate or by special permission of the Program Coordinator. (Computer/Digital Literacy and HIT 109), Minimum grade of C, Pre-requisite Or Co-requisite: (BIO 139 if BIO 137 was taken), Minimum grade of C. Lecture : 2.0 credits (30 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

HIT 205(3) Course ID:007084
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. Pre-requisite or Co-requisite: HIT 109 and HIT 110. Minimum grade of C. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

HIT 207(3) Course ID:007085
Clinical Classification Systems III
Introduces the advanced application of clinical classification systems in the reimbursement for health care services and specialties such as RBVRS, OASIS, RUGs, Cancer Registry, etc. Reviews fraud, abuse, and regulatory agency requirements relating to coding and billing. Pre-requisite: HIT109 and HIT 202. Minimum grade of "C". Lecture: 2.0 credits (30 contact hours), Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

HIT 211(4) Course ID:007086
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. Pre-requisite: HIT 109 and HIT 110. Minimum grade of "C", Pre-requisite or Co-requisite: HIT 112, Minimum grade of "C", Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

HIT 215(4) Course ID:007087
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). Pre-requisite: (HIT 200 and HIT 202 and HIT 204, Minimum grade of "C") or Consent of Program Coordinator. Practicum: 4.0 credits (180 contact hours).
Components: Practicum Attributes: Course Also Offered in Modules, Technical

HIT 299(0.5 - 4) Course ID:007090
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 (15-90 contact hours).
Components: Laboratory, Lecture Attributes: Technical

HIT 2151(2) Course ID:007088
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. Pre-requisite: (HIT 200 and HIT 202 and HIT 204. Minimum grade of "C") or Consent of Program Coordinator. Practicum: 2.0 credits (90 contact hours).
Components: Practicum

HIT 2152(2) Course ID:007089
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. Pre-requisite: (HIT 200 and HIT 202 and HIT 204, Minimum grade of "C") or Consent of Program Coordinator. Practicum: 2.0 credits (90 contact hours).
Components: Practicum

HMS 101(3) Course ID:000901
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
HOS 102(3) Course ID:000777
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).
Components: Lecture
Attributes: Technical

HMS 210(3) Course ID:000202
Theories and Techniques in Human Services
Introduces, analyzes, and discusses techniques, approaches, and theories employed in the field of human services. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HOS 104(3) Course ID:000867
Group Dynamics for Human Services
Covers group techniques in clinical or agency settings based on various theoretical models. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 203(3) Course ID:000784
Dynamics of Human Behavior
Provides an overview of approaches to understanding the process of human behavior. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 212(3) Course ID:000585
Crisis Intervention
Provides an overview of approaches to understanding addictions with emphasis on the bi-psycho-social model. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Course Equivalents: SWK 255
Attributes: Technical

HOS 220(3) Course ID:005588
Cultural Diversity in Human Services
Examines current and historical cultural diversity in human services provision. Emphasizes the cultural competencies as they pertain to human services professions. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Course Equivalents: SWK 220
Attributes: Technical

HMS 235(3) Course ID:000818
Teaching Persons with Mental Retardation
Introduces mental retardation with emphasis on understanding and teaching the mentally retarded. Pre-requisite: PSY 110 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 240(3) Course ID:017205
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. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 245(3) Course ID:016148
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, bi-psycho-social assessments, and psychotropic medications. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 248(3) Course ID:017206
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: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 265(3) Course ID:000709
Working with Disabilities in Human Services
Provides 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/recreation opportunities, and personal management/dependent living skills training and supports. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HMS 299(1 - 3) Course ID:000522
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).
Components: Lecture
Attributes: Technical

HON Honors

HON 101(3) Course ID:004909
Intro to Contemporary Thought
Introduces the development and impact of contemporary social, scientific, and philosophical thought from an interdisciplinary perspective. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: AH - Arts and Humanities

HON 102(3) Course ID:000766
The Medieval and Renaissance World
From the Middle Ages through the Reformation: an interdisciplinary course in intellectual history. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: AH - Arts and Humanities

HON 201(3) Course ID:000889
The Early and Modern World
From the development of the modern scientific method through mid-19th century industrialism: an interdisciplinary course in intellectual history. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: AH - Arts and Humanities

HOS 100(3) Course ID:002365
Introduction to Hospitality Management
Introduces an overview of the hospitality industry. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

HOS Hospitality Management
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).

Components: Lecture  Attributes: Technical

HOS 180(3)  Course ID: 002366
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).

Components: Lecture  Attributes: Technical

HOS 200(3)  Course ID: 002367
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).

Components: Lecture  Attributes: Technical

HOS 210(3)  Course ID: 002368
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).

Components: Lecture  Attributes: Technical

HOS 282(3)  Course ID: 002370
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).

Components: Lecture  Attributes: Technical

HRT Horticulture
HRT 150(3)  Course ID: 0001543
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: Lecture

HSE Health Sciences Education
HSE 101(1)  Course ID: 002221
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).

Components: Lecture  Attributes: Technical

HSM Homeland Security
HSM 100(3)  Course ID: 000518
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).

Components: Lecture  Attributes: Course Also Offered in Modules, Technical

HSM 110(3)  Course ID: 000519
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).

Components: Lecture

HST Health Care Foundations
HST 101(3)  Course ID: 000765
Medical Assisting
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: Laboratory, Lecture

HST 102(3)  Course ID: 000764
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).

Components: Lecture  Attributes: Technical

HST 104(3.5)  Course ID: 015849
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 1396 and 507 KAR 1:450. Lecture: 2.0 credits (30 contact hours) or 6.0 credits (45 contact hours). Clinical: 0.5 credits (23 contact hours), 0.5 credits (23 contact hours).

Components: Clinical, Laboratory, Lecture

HST 121(2)  Course ID: 000765
Pharmacology
Introduces students to the basics of pharmacology/ pharmacokinetics, include terms used to describe various
### Humanities

**HUM 120(3) Course ID:000350**
**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. 

**Components:** Lecture 
**Attributes:** AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**

**HUM 121(3) Course ID:004906**
**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. 

**Components:** Lecture 
**Attributes:** AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**

**HUM 135(3) Course ID:000582**
**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. 

**Components:** Lecture 
**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science 
**Lecture: 3 credits (45 contact hours).**

**HUM 140(3) Course ID:006814**
**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. 

**Components:** Lecture 
**Lecture: 3.0 credits (45 contact hours).**

**HUM 150(3) Course ID:005430**
**Introduction to African Literature**
Presents a cross-cultural and historical approach to the oral and written works by major Black writers of Africa. 

**Components:** Lecture 
**Attributes:** Cultural Studies, AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**

**HUM 160(3) Course ID:007110**
**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. 

**Components:** Lecture 
**Attributes:** Cultural Studies, AH - Arts and Humanities 
**Lecture: 3.0 credits (45 contact hours).**

**HUM 202(3) Course ID:000841**
**Survey of Appalachian Studies I**
Introduces 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, values, and communication. 

**Components:** Lecture 
**Attributes:** Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science 
**Lecture: 3 credits (45 contact hours).**

**HUM 250(3) Course ID:005923**
**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. 

**Components:** Lecture 
**Attributes:** Cultural Studies, AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**

**HUM 251(3) Course ID:005924**
**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. 

**Components:** Lecture 
**Attributes:** Cultural Studies, AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**

**HUM 252(3) Course ID:005640**
**Introduction to Film**
Introduces the study of movies as a narrative art and a cultural document. Requires viewing of films outside of class. 

**Components:** Lecture 
**Course Equivalents: ENG 281** 
**Attributes:** AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**

**HUM 253(3) Course ID:005641**
**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. 

**Components:** Lecture 
**Course Equivalents: ENG 282** 
**Attributes:** Cultural Studies, AH - Arts and Humanities 
**Lecture: 3 credits (45 contact hours).**
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 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 102(3) Course ID:004087

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 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 120(3) Course ID:004131

Health, Safety and Nutrition
Examines the components and skills necessary for maintaining a healthy and safe environment for young children. Lecture: 3 Credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 130(3) Course ID:004132

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).

Components: Lecture
Attributes: Technical

IEC 170(3) Course ID:005081

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. Pre-requisite: IEC 101 or IEC 102 or IEC 130 or permission of IECE program coordinator. Lecture: 3 credits (45 contact hours).

 Components: Lecture
Attributes: Technical

IEC 180(3) Course ID:004088

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. Pre-requisite: IEC 101 or IEC 102 or IEC 130 or permission of IECE program coordinator. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 200(3) Course ID:004133

Child Guidance
Examines appropriate methods for guiding children and promoting the development of prosocial behaviors. This course requires ten (10) hours of field experience. Pre-requisite: IEC 101 or IEC 130 or permission of the IECE program coordinator. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 210(3) Course ID:005580

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).

Components: Lecture
Attributes: Technical

IEC 216(3) Course ID:004135

Literacy and Language in IECE
Examines appropriate methods for guiding children and promoting the development of prosocial behaviors. This course requires ten (10) hours of field experience. Pre-requisite: IEC 180 or permission of the IECE program coordinator. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 221(3) Course ID:004136

Creative Expressions in IECE
Examines appropriate methods for guiding children and promoting the development of prosocial behaviors. This course requires ten (10) hours of field experience. Pre-requisite: IEC 180 or permission of the IECE program coordinator. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 230(3) Business Administration of ECE Programs
Introduces the various elements of basic electricity, including the identification of electrical symbols as well as routines, 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. Pre-requisite: IEC 180 or permission of the IECE program coordinator. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IEC 291(3) Course ID:004141

Instructor Consent Required
IECE Practicum/Cooperative Education
Requires participation in supervised teaching experiences in early childhood settings where practical skills are applied. Includes observation, planning, implementing and assessing learning experiences based on developmentally appropriate practices. Required: One hundred and eighty (180) field hours of experience. Pre-requisite: Program Coordinator’s Approval. Practicum: 3.0 credits (180 contact hours/ratio 60:1).

Components: Practicum
Attributes: Technical

IES International Exchange Student
IES 235(1 - 3) Course ID:005198

International Student Experience
First-hand exposure to cultures outside the United States. Includes travel and may include study, visits to corporate, government offices, cultural activities and/or work assignments. Pre-requisite: IES 233. Practicum: 1-3 credits (60-180 contact hours).

Components: Practicum
Attributes: Technical

IES Integrated Engineering Technology
IES 103(2) Course ID:007134

Preventive Maintenance
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 (40.5 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IES 104(2) Course ID:007137

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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IES 107(3) Course ID:0077140

Basic Electricity/Electronics
Introduces the various elements of basic electricity including the identification of electrical symbols as well as routines, 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. Pre-requisite: IEC 180 or permission of the IECE program coordinator. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

IES 290(3) Course ID:004140

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. Includes 10 hours of required field experience, which may be waived by the IECE program coordinator for students concurrently enrolled in IEC 190 or IEC 291. Lecture : 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical
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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 108(5) Course ID:007145
Mechanical Drive Systems
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 and how they affect a power transmission system. Lecture/Lab: 5.0 credits (112.5 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 109(3) Course ID:007152
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 slings, 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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 130(5) Course ID:016096
Lean Manufacturing
Installs the students in the basic concepts of a safety culture and hazard prediction training. Introduces the fundamental SS process, the Toyota Production System for Maintenance, the Toyota Problem Solving method, the Toyota Drive and Dedication model, and the Toyota Problem Solving method, the Toyota Production System culture and hazard prediction training. Introduces the fundamental information in drafting and laser etchers. Lecture /Lab: 0.7 credits (16.5 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 200(1) Course ID:017627
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 (16.5 contact hours).

Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

IET 201(6) Course ID:007180
Electrohydrodynamics/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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 203(5) Course ID:007172
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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 205(4) Course ID:007167
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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

IET 206(5) Course ID:007161
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).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

Basic 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. Lecture/Lab: 0.7 credits (15 contact hours).

Components: Lecture

IET 102(1.0) Course ID:007135

Advanced Technologies
Introduces various types and styles of predictive and preventive maintenance components, principles, and practices used in industrial applications. Lecture/Lab: 1.3 credits (25.5 contact hours).

Components: Lecture

IET 102(1.3) Course ID:007136

Drafting Fundamentals
Introduces the fundamental information in drafting necessary to retrieve read, manipulate and understand a mechanical part print. Requires student to be able to identify different types of prints as well as being able to analyze them. Lecture/Lab: 0.9 credits (16.5 contact hours).

Components: Lecture

IET 104(1.0) Course ID:007138

Orthographic Interpretation
Instructs the learner 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: 1.1 credits (21 contact hours).

Components: Lecture

IET 107(1.1) Course ID:007141
Intro to Basic Electricity
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. Lecture/Lab: 1.0 credit (21 contact hours).

Components: Lecture

IET 107(0.3) Course ID:007142

Instruments
Introduces electrical measurement instruments, including digital and analog multimeters, clamp-on ammeters, megohmmeters, and the oscilloscope. Requires hands-on lab time spent with each device type. Emphasizes safe measuring techniques. Covers additional devices such as pressure gauges, chart recorders, heat sensors and chassis stretch monitor. Lecture/Lab: 0.3 credits (7.5 contact hours).

Components: Lecture

IET 107(3.1) Course ID:007143

Control Circuits & Components
Concentrates on control logic components and circuit function. Examines combinational and sequential ladder logic designs with great attention to reliability of function. Requires construction of various circuits that demonstrate key component functionality concepts. Requires troubleshooting using analytical techniques, multimeters, chart recorders, and oscilloscopes. Lecture/Lab: 1.0 credit (22.5 contact hours).

Components: Lecture

IET 107(4.0) Course ID:007144

Basic Mechanical Power Systems
Introduces the basic concepts of mechanical power transmission. Addresses the principles of power transmission, calculations of speed and force and how they affect a power transmission systems ability to perform work. Emphasizes the basics of mechanical drawing, safe work practices for working around machinery, common hand tools associated with maintenance work and some of the more common terms and definitions. Lecture : 0.5 credits (7.5 contact hours).

Components: Lecture

IET 108(0.5) Course ID:007146

Flexible Drives
Introduces various types and styles of flexible belt and chain drives, including V-belts, chains, sprockets, and components. Lecture/Lab: 0.3 credit (7.5 contact hours).

Components: Lecture

IET 108(2.2) Course ID:007148

Couplings and Alignment
Introduces types and functions of couplings used in industrial power transmissions, including how to install, align, and maintain shaft couplings. Lecture/Lab: 2.2 credits (55.5 contact hours).

Components: Lecture

IET 108(4.1) Course ID:007149

Bearings, Shafts, and Seals
Introduces basic types and functions of bearings, shafts and seals found on mechanical drive systems commonly used in industry. Lecture/Lab: 1.1 credits (24 contact hours).
Intro to Machining Operations
Introduces the most common machining procedures and machines used by multi-skilled industrial maintenance technicians. Lecture: 0.1 credits (1.5 contact hours).

Components: Lecture

IET 1202(0.6) Course ID:007188
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: Lecture

IET 1203(0.8) Course ID:007189
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: Lecture

IET 1204(0.5) Course ID:007190
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: Lecture

IET 1205(0.4) Course ID:007191
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: Lecture

IET 1206(0.7) Course ID:007192
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: Lecture

IET 1207(0.9) Course ID:013790
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: Lecture

IET 1301(1) Course ID:016097
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 Yushi 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: Lecture

IET 1302(1) Course ID:016098 SS
Introduces the fundamental SS process involving the five stage progression described by the Japanese words Seiri, Seiton, Seisei, 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: Lecture

IET 1303(1) Course ID:016099
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 Mudas and their relationship to maintenance and production. Lecture: 1.0 credit (15 contact hours).

Components: Lecture

IET 1304(1) Course ID:016100
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: Lecture

IET 1305(1) Course ID:016101
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: Lecture

IET 2011(1) Course ID:007179
Electrohydraulics/Pneumatics Fundamentals
Introduces the fundamentals of electro-fluid power, 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. Lecture: 1.0 credit (15 contact hours).

Components: Lecture

IET 2012(0.7) Course ID:007178
Reservoirs, Fluids, Filters
Introduces functions of hydraulic/pneumatic reservoirs and reservoir components. Addresses properties and requirements for fluids, as well as how filters are used to maintain cleanliness in fluid power systems. Lecture/Lab: 0.7 credits (13.5 contact hours).

Components: Lecture

IET 2013(0.4) Course ID:007177
Hose, Piping, and Tubing
Introduces various types of conductors that carry fluid through a system. Focuses on fittings, hose, and steel tubing used in fluid power systems. Lecture/Lab: 0.4 credits (9 contact hours).

Components: Lecture

IET 2014(0.8) Course ID:007176
Pumps, Actuators, Accumulators
Introduces the different types of pumps, actuators and accumulators used in fluid power systems which create flow, change fluid power into mechanical power and devices that store energy in the system. Lecture/Lab: 0.8 credits (16.5 contact hours).

Components: Lecture

IET 2015(1.3) Course ID:007175
Valves
Explains hydraulic and pneumatic directional control, pressure control and flow control valves. Lecture/Lab: 1.3 credits (28.5 contact hours).

Components: Lecture

IET 2016(0.9) Course ID:007174
Electrohydraulics/Pneumatics
Introduces the fundamentals of electro-fluid power,
including basic electrical principles, basic fluid power principles, electro-fluid power limit devices, common electro-fluid power troubleshooting principles and practices. Lecture/Lab: 0.9 credits (16 contact hours).

Components: Lecture

IET 2017(0.9)  
Course ID:007173  
Systems Troubleshooting  
Introduces troubleshooting of hydraulic and pneumatic systems, including tracing out systems, isolating problems, safety testing and inspecting systems that use combination circuits and combined electro-hydraulic/pneumatic systems. Lecture/Lab: 0.9 credits (19.5 contact hours).

Components: Lecture

IET 2031(0.6)  
Course ID:007171  
Introduction to PLCs  
Introduces various elements of basic PLCs including the identification of programmable logic control systems as well as an overview of PLC system architectures. Provides instruction in basic numbering systems, computer terminology, PLC functions, program structures, language standards, point addressing basics. Lecture: 0.6 credits (9 contact hours).

Components: Lecture

IET 2033(1.5)  
Course ID:007169  
Programming PLCs  
Introduces various elements of programming PLCs. Addresses the basic elements of PLC programming and routines. Requires student to program using ladder logic, structured text, sequential function chart, and function block languages. Lecture/Lab: 1.5 credits (34.5 contact hours).

Components: Lecture

IET 2034(1.5)  
Course ID:007168  
PLC Communication  
Introduces various elements of industrial communications using PLCs. Addresses common types of control communications in an industrial environment. Includes discussion of PLC addressing used in communications. Lecture/Lab: 1.5 credits (34.5 contact hours).

Components: Lecture

IET 2051(0.6)  
Course ID:007166  
Introduction to Robotics  
Introduces robotics in regard to industrial robotic safety standards, historic timeline of industrial robots, industrial classification of robots, common industrial applications of robots, basic system components found in industrial robot applications, robotic motion concepts, common terms and definitions used in computer integrated manufacturing (CIM) as it relates to robots. Lecture/Lab: 0.6 credits (10.5 contact hours).

Components: Lecture

IET 2052(1.4)  
Course ID:007170  
Hardware & Software  
Introduces memory and project organization within a PLC processor, the installation, wiring and configuration of I/O modules, as well as how to start a new project. Lecture/Lab: 1.4 credits (31.5 contact hours).

Components: Lecture

IET 2053(1.5)  
Course ID:007165  
Programming/Editing Robots  
Introduces the skill necessary to start a new project. Covers robot and their backup systems. Lecture/Lab: 0.2 credits (4.5 contact hours).

Components: Lecture

IET 2054(1.1)  
Course ID:007163  
Error Codes & Troubleshooting  
Introduces error codes and the troubleshooting process needed to solve a robot problem in a PLC-controlled, automated system. Includes discussion of the standard safety and interface signals associated with integrated systems, as well as various types of robotic applications along with the interface signals typically associated with each application. Stresses the programming concepts that support optimizing cycle times. Lecture/Lab: 0.6 credits (15 contact hours).

Components: Lecture

IET 2055(0.6)  
Course ID:007162  
Integration of PLCs & Robots  
Introduces concepts associated with integrating robotic applications in a PLC-controlled, automated system. Includes discussion of the standard safety and interface signals associated with integrated systems, as well as various types of robotic applications along with the interface signals typically associated with each application. Stresses the programming concepts that support optimizing cycle times. Lecture/Lab: 0.6 credits (15 contact hours).

Components: Lecture

IET 2061(0.5)  
Course ID:007160  
Fundamentals  
Introduces identification, installation, replacement, and troubleshooting of automation controller circuit boards and modules. Lecture/Lab: 0.5 credits (10.5 contact hours).

Components: Lecture

IET 2062(0.9)  
Course ID:007159  
Sensors and Photoeyes  
Introduces installation, maintenance and troubleshooting of common input devices. Lecture/Lab: 0.9 credits (18 contact hours).

Components: Lecture

IET 2063(0.6)  
Course ID:007158  
Calibration and Loop Training  
Introduces methods of motor control including on-off, proportional, integral, and derivative including PID loop tuning and quality. Lecture/Lab: 0.6 credits (13.5 credits).

Components: Lecture

IET 2064(3)  
Course ID:007157  
Final Control Elements  
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: 3.0 credits (63 contact hours).

Components: Lecture

IFM 201(1.1)  
Course ID:0001575  
Special Problems I  
This course is designed for the student who has demonstrated specific needs. Pre-requisite: Permission of Instructor. Laboratory: 1 credit (45 contact hours).

Components: Laboratory  
Attributes: Technical

IFM 205(3)  
Course ID:0001577  
Instructor Consent Required  
Special Problems III  
This is a course designed for the student who has demonstrated specific special needs. Pre-requisite: Permission of Instructor. Laboratory: 3 credits (135 contact hours).

Components: Laboratory  
Attributes: Technical

IFM 211(3)  
Course ID:007270  
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. Pre-requisite: Computer Literacy or consent of instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

IFM 128(3)  
Course ID:007271  
Principles of Informatics  
Introduces the student 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).

Components: Lecture  
Attributes: Technical

IFM 215(3)  
Course ID:007274  
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. Pre-requisite: Digital Literacy or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

IFM 235(3)  
Course ID:007276  
Business Intelligence and Analytics  
Introduces students to the fundamentals of business intelligence, analytics, and data science. Prepares both business and information technology students to understand how business intelligence, analytics, and data sciences provide a basis for the decisions needed to be competitive in the global marketplace Pre-requisite: Digital Literacy or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture  
Attributes: Technical

IMD 100(3)  
Course ID:004764  
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).

Components: Lecture  
Attributes: Digital Literacy

IMD 115(3)  
Course ID:004765  
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).

Components: Lecture  
Attributes: Technical

IMD 124(3)  
Course ID:016264  
Introduction to Game Development  
Introduces students to the concepts associated with game development history, platforms, genres, games, 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. Pre-requisite: CIT105 OR IMD100 OR Consent of Instructor. Co-requisite: CIT221 OR IMD221 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).

Components: Lecture  
Attributes: Equivalent: CIT 124

Attributes: Technical

300
IMD 126(3)  Course ID:004781  
Introduction to Desktop Publishing  
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. Pre-requisite: IMD 100 or equivalent skills. Lecture: 3 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 127(3)  Course ID:005044  
Vector Design with Adobe Illustrator  
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. Pre-requisite: IMD 115 or concurrent or consent of instructor. Lecture: 3 credits (45 contact hours).   
Components: Lecture  
Attributes: Technical

IMD 128(3)  Course ID:005045  
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 printing 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. Pre-requisite: IMD 100 or consent of Instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 133(3)  Course ID:005046  
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). 
Components: Lecture  
Attributes: Technical

IMD 180(3)  Course ID:004786  
Intermediate Web Design  
Utilizes content management systems (CMS) for web design with an emphasis on customizable 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. Pre-requisite: IMD 133 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 221(3)  Course ID:016265  
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. Pre-requisite: CIT105 OR IMD100 OR Consent of Instructor. Co-requisite: CIT124 OR IMD124 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 222(3)  Course ID:016266  
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. Pre-requisite: CIT 221 OR IMD 221 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 223(3)  Course ID:016267  
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. Pre-requisite: CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor. Co-requisite: CIT 273 OR IMD 273 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 226(3)  Course ID:004791  
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. Pre-requisite: IMD 126 and IMD 127 and IMD 128. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 228(3)  Course ID:006833  
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. Pre-requisite: IMD 115 and IMD 128. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 230(3)  Course ID:004793  
Advanced Web Design  
Explores existing and emerging web technologies through the use 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. Pre-requisite: IMD 180 or consent of instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 250(3)  Course ID:005050  
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. Pre-requisite: IMD 100 or consent of instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 255(3)  Course ID:007327  
Digital Video Editing II  
Covers advanced techniques within cinematic arts and editing such as multi-camera 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. Pre-requisite: IMD 250 or consent of instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 258(3)  Course ID:007328  
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. Pre-requisite: IMD 250 or consent of instructor. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical

IMD 270(3)  Course ID:005214  
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. Pre-requisite: sophomore status & preparing for job search. Lecture: 3.0 credits (45 contact hours). 
Components: Lecture  
Attributes: Technical
IMD 271(1 - 3) Course ID:004797
Instructor Consent Required
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. Pre-requisite: Consent of Instructor. 2.0 GPA.
IMD 270 and the completion of 9 additional credit hours of IMD course work. Practicum: 1.0 - 3.0 credits (40 - 120 contact hours).
Components: Practicum
Attributes: Technical
IMD 273(3) Course ID:016269
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. Pre-requisite: CIT/IMD 124 AND CIT/IMD 222 OR Consent of Instructor. Co-requisite: CIT 223 OR IMD 223 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Course Equivalents: CIT 274
Attributes: Technical
IMD 274(3) Course ID:016270
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. Pre-requisite: ((CIT 223 OR IMD 223) AND (CIT 273 OR IMD 273)) OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
IMD 275(3) Course ID:004798
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).
Components: Lecture
Attributes: Technical
IMD 277(3) Course ID:006837
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. Pre-requisite: (IMD 115 and IMD 126 and IMD 127 and IMD 128) or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
IMD 280(3) Course ID:004799
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 graphic option. Uses presentation, vector, raster, and desktop publishing software to create design-intensive portfolio pieces. Pre-requisite: (IMD 127 and IMD 128 and IMD 185 and IMD 226) or Consent of Instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical
IMD 290(3) Course ID:005779
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).
Components: Lecture
Attributes: Technical
IMD 292(3) Course ID:005215
Portfolio Practicum: Web Design
Requires a comprehensive web site design portfolio using skills learned in the IMD Web Design core courses to assess students overall skills learned in the web design option. Provides IMD students with a professional design portfolio to aid in the search for employment. Uses industry-standard design software programs and dynamic scripting languages to assemble the comprehensive design portfolio. Pre-requisite: IMD 133, 180 OR Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
IMG 104(2) Course ID:005604
Image Production & Acquisition
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. Pre-requisite: BIO 137 with a minimum grade of C. Pre-requisite or Co-requisite: BIO 139. 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).
Components: Laboratory, Lecture
Attributes: Technical
IMG 106(2) Course ID:005605
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. Pre-requisite: BIO 137. Pre-requisite or Co-requisite: BIO 139. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
IMG 109(1) Course ID:005607
Clinical Practice I
Components: Clinical
Attributes: Technical
IMG 110(7) Course ID:004296
Radiography I
Focuses 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. Pre-requisite: Admissions to the radiography program and BIO 139 with a minimum grade of "C". Co-requisite: IMG 101. Lecture: 6.0 credits (90 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
IMG 111(4) Course ID:004297
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. Pre-requisite: IMG 101 with a minimum grade of "C". Co-requisite: IMG 110. Clinical: 4.0 credits (240 contact hours).
Components: Clinical
Attributes: Technical
IMG 114(2) Course ID:005608
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. Pre-requisite: IMG 104, IMG 106, IMG 108 and IMG 109. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
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. Pre-requisite: IMG 104, IMG 106, IMG 108 and IMG 109. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

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. Pre-requisite: IMG 104, IMG 106, IMG 108 and IMG 109. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credit (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

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. Pre-requisite: IMG 104, IMG 106, IMG 108 and IMG 109. Clinical: 3.0 credits (180 contact hours).

Components: Clinical
Attributes: Technical

Basic Computed Tomography

Provides entry-level radiography students with an introduction to and basic understanding of the operation of a computed tomography (CT) device. Pre-requisite: IMG 209. Lecture: 1.0 credit (15 contact hours).

Components: Lecture
Attributes: Technical

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 radiographic 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. Pre-requisite: IMG 114, IMG 116, IMG 118 and IMG 119. Clinical: 3.0 credits (180 contact hours).

Components: Clinical

Re-introduces advanced modalities used to complement diagnostic 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. Pre-requisite: IMG 210 with a minimum grade of “C”. Co-requisite: IMG 221. Lecture: 3.0 credits (45 contact hours) Lab: 1.0 credit (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

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. Provides technical skills and procedural knowledge through observation and participation in radiographic studies with opportunities for more responsibility and independence with previously learned procedures. Pre-requisite: IMG 211 with a minimum grade of “C”. Co-requisite: IMG 220. Clinical: 6.0 credits (360 contact hours).

Components: Clinical
Attributes: Technical

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. Pre-requisite: IMG 214 and IMG 216 and IMG 219. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical

Radiographic Pathology

Introduces concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection. Pre-requisite: IMG 214 and IMG 216 and IMG 219. Lecture: 1.0 credit (15 contact hours).

Components: Lecture
Attributes: Technical

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. Pre-requisite: IMG 214, IMG 216 and IMG 219. Lecture: 2.0 credits (30 contact hours).

Components: Lecture
Attributes: Technical
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. 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 ARTT registry or NMTCB registry. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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. 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 ARTT registry or NMTCB registry. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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. 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 ARTT registry or NMTCB registry. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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. 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 ARTT registry or NMTCB registry. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

Computed Tomography Imaging Procedures

Examines the procedures, positioning, and equipment involved in computed tomography (CT) imaging. 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 ARTT registry or NMTCB registry. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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. 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 ARTT registry or NMTCB registry. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Technical

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 thoracic, abdominal and pelvic cavities, and cranial. Provides necessary clinical correlation of data acquisition concepts and basic scanning parameters. Pre-requisite: ARTT 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-requisite or Co-requisite: IMG 230, IMG 240, IMG 250 and IMG 260. Clinical: 4.0 credits (240 contact hours).

Components: Clinical
Attributes: Technical

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).

Components: Clinical
Attributes: Technical

Industrial Maintenance Technology

Provides necessary technical instruction needed for student to weld using SMAW (Stick), GMAW (MIG), GTAW (TIG), and Oxy-Fuel processes. Pre-requisite or Co-requisite: IMG 230, IMG 240, IMG 250 and IMG 260. Clinical: 4.0 credits (240 contact hours).

Components: Laboratory
Attributes: Technical

Welding for Maintenance

Provides basic instruction needed for student to weld using SMAW (Stick), GMAW (MIG), GTAW (TIG), and Oxy-Fuel processes. Co-requisite: (IMG 101 or (IMG 1011 - IMG 1014)) or Consent of Instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

Welding for Maintenance Lab

Provides application of basic welding skills used in SMAW (Stick), GMAW (MIG), GTAW (TIG) and Oxy-Fuel. Co-requisite: IMG 100 or Consent. Laboratory: 2 credits (60 contact hours).

Components: Laboratory
Attributes: Course Also Offered in Modules, Technical

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. Co-requisite: :: IMG 111 or Consent of Instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

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. Co-requisite: IMG 110 or Consent of Instructor. Laboratory: 2 credits (60 contact hours).

Components: Laboratory
Attributes: Course Also Offered in Modules, Technical

Maintaining Industrial Equipment I

Introduces the student to maintenance techniques and procedures used to maintain industrial equipment. Co-requisite: IMG 151 or Consent of Instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Technical

Maintaining Industrial Equipment I Lab

Provides the student with lab experience in the maintenance of industrial equipment. Co-requisite: IMG 150 or Consent of Instructor. Laboratory: 2 credits (60 contact hours).

Components: Laboratory
Attributes: Course Also Offered in Modules, Technical
IMT 160(2)  Lecture  Course ID:017373
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).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

IMT 161(2)  Lecture  Course ID:017374
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).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

IMT 162(2)  Lecture  Course ID:017377
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).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

IMT 198(1 - 8)  Practicum  Course ID:001590
Instructor Consent Required
Practicum
Provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Practicum do not receive compensation. Pre-requisite: Permission of Instructor. Practicum: 1-8 credits (75-600 contact hours).
Components: Practicum Attributes: Technical

IMT 199(1 - 8)  Course ID:001591
Instructor Consent Required
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. Pre-requisite: Permission of Instructor. Co-op: 1 - 8 credits (75-600 contact hours).
Components: Co-op Attributes: Technical

IMT 200(4)  Lecture  Course ID:007372
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 predictive and preventive 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. Pre-requisite: IMT 100 and IMT 111 or Consent of Instructor. Lecture/Lab: 4.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

IMT 220(3)  Lecture  Course ID:001592
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. Pre-requisite: IMT 110, & IMT 111. Co-requisite: IMT 221. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

IMT 221(2)  Lecture  Course ID:001593
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. Pre-requisite: (IMT 110 and IMT 111) or consent of instructor. Co-requisite: IMT 220. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Course Also Offered in Modules, Technical

IMT 222(2)  Lecture  Course ID:006422
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. Pre-requisite: (IMT 110 and IMT 111 and IMT 220 and IMT 221) or consent of instructor. Co-requisite: IMT 223. Lecture: 2 credits (30 contact hours).
Components: Lecture Attributes: Course Also Offered in Modules, Technical

IMT 223(2)  Lecture  Course ID:006437
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. Pre-requisite: (IMT 110 and IMT 111 and IMT 220 and IMT 221) or consent of instructor. Co-requisite: IMT 222. Laboratory: 2 credits (60 contact hours).
Components: Laboratory Attributes: Course Also Offered in Modules, Technical

IMT 230(5)  Lecture  Course ID:001594
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. Pre-requisite: [(IMT 110 and IMT 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. Laboratory: 2 credits (60 contact hours).
Components: Laboratory Attributes: Technical

IMT 231(2)  Lecture  Course ID:001595
Industrial Maintenance of PLC's
Addresses the diversity of PLC control devices and applications used in industry today. Safety and electrical lockouts are also included. Pre-requisite: [(IMT 110 and IMT 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. Lecture: 6 credits (90 contact hours).
Components: Lecture Attributes: Technical

IMT 240(6)  Lecture  Course ID:001596
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. 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. Lecture: 6 credits (90 contact hours).
Components: Lecture Attributes: Technical

IMT 250(2)  Lecture  Course ID:001598
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. Pre-requisite: (IMT 150 and IMT 151) with a grade of "C" or greater) or consent of instructor. Co-requisite: IMT 251 or consent of instructor. Lecture: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical

IMT 251(3)  Lecture  Course ID:001599
Maintaining Industrial Equipment II Lab
Complements IMT 250 and consists of advanced, specific and assigned machine repair tasks. 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. Laboratory: 3.0 credits (90 contact hours), Lab: 3.0 credits (90 contact hours).
Components: Laboratory Attributes: Technical

IMT 260(7)  Lecture  Course ID:006546
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. Pre-requisite: IMT 100 and IMT 101 and (IMT 115 & IMT 116) or (IMT 114) or (IMT 110 & IMT 112) or consent of instructor. Lecture: 2 credits (30 contact hours), Lab: 5 credits (150 contact hours).
Components: Lecture Attributes: Technical

IMT 280(3)  Lecture  Course ID:001600
Advanced Programmable Logic Controllers Lab
Provides practical applications of the theory in IMT 280 to include installation, programming, interfacing and troubleshooting of industrial PLCs. Pre-requisite: (IMT 220 and IMT 221 with a grade of "C" or greater) or (equivalent) Consent of Instructor. Co-requisite: IMT 280 or Consent of Instructor. Laboratory: 2 credits (60 contact hours).
Components: Laboratory Attributes: Course Also Offered in Modules, Technical

IMT 281(2)  Lecture  Course ID:001601
Advanced Programmable Logic Controllers Lab
Provides practical applications of the theory in IMT 280 to include installation, programming, interfacing and troubleshooting of industrial PLCs. Pre-requisite: (IMT 220 and IMT 221 with a grade of "C" or greater) or Consent of Instructor. Co-requisite: IMT 280 or Consent of Instructor. Laboratory: 2 credits (60 contact hours).
Components: Laboratory Attributes: Course Also Offered in Modules, Technical

IMT 282(3)  Lecture  Course ID:017642
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. Pre-requisite: IMT 280 or ELT 250 or EET 276 and EET 277 or Consent of Instructor. Lecture: 2 credits (60 contact hours), Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

IMT 283(1)  Lecture  Course ID:007373
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. Pre-requisite: (BRX 120 or ELT 102) and PXF 100 and PXF 101 and IMT 100 and IMT 101 and IMT 110 and IMT 111 and IMT 150 and IMT 151 and IMT 220 and IMT 221) or consent of instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture Attributes: Technical

IMT 290(1 - 3)  Lecture  Course ID:001602
Instructor Consent Required
Special Projects Lab
Provides an opportunity to develop advanced skills in topics related to industrial maintenance. Pre-requisite: Consent of Instructor. Laboratory: 1-3 credits (30-90 contact hours).
Components: Laboratory Attributes: Technical
IMT 1001(0.75) Course ID:005915
Welding for Maintenance Safety
Provides basic instruction needed for student to weld using Oxy-Fuel. Co-requisite: IMT 1011 (or consent of instructor). Lecture: 0.75 credit (11.25 contact hours).
Components: Lecture

IMT 1002(0.75) Course ID:005916
Welding for Maintenance SMAW (Stick Welding)
Provides basic instruction needed for student to weld using Shielded Metal Arc Welding (SMAW). Co-requisite: IMT 1012 (or consent of instructor). Lecture: 0.75 credit (11.25 contact hours).
Components: Lecture

IMT 1003(0.75) Course ID:005917
Welding for Maintenance GMAW (MIG Welding)
Provides instruction of setup and use of GMAW (MIG welding) equipment. Co-requisite: IMT 1013 (or consent of instructor). Lecture: 0.75 credit (11.25 contact hours).
Components: Lecture

IMT 1004(0.75) Course ID:005918
Welding for Maintenance GTAW (TIG Welding)
Provides instruction of setup and use of GTAW (TIG welding) equipment. Co-requisite: IMT 1014 (or consent of instructor). Lecture: 0.75 credit (11.25 contact hours).
Components: Lecture

IMT 1011(0.5) Course ID:005919
Welding for Maintenance Safety and Cutting Lab
Provides application of welding safety and use of oxy-fuel cutting equipment. Co-requisite: IMT 1001 (or consent of instructor). Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1012(0.5) Course ID:005920
Welding for Maintenance SMAW (Stick Welding) Lab
Provides application of setup and use of SMAW (stick welding) equipment. Co-requisite: IMT 1002 (or consent of instructor). Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1013(0.5) Course ID:005921
Welding for Maintenance GMAW (MIG Welding) Lab
Provides application of setup and use of GMAW (MIG welding) equipment. Co-requisite: IMT 1003 (or consent of instructor). Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1014(0.5) Course ID:005922
Welding for Maintenance GTAW (TIG Welding) Lab
Provides application of setup and use of GTAW (TIG welding) equipment. Co-requisite: IMT 1004 (or consent of instructor). Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1151(0.2) Course ID:006406
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. Co-requisite: IMT 1151 or Consent of Instructor. Lecture: 0.2 credit (3 contact hours).
Components: Lecture

IMT 1152(0.1) Course ID:006407
Vertical and Horizontal Bandsaw Operations
Introduces vertical and horizontal bandsaw operations including the selection of feeds and speeds as well as blade welding. Co-requisite: IMT 1163 or Consent of Instructor. Lecture: 0.1 credit (1.5 contact hours).
Components: Lecture

IMT 1153(0.3) Course ID:006408
Drill Press Operations and Procedures
Introduces drill press operations including the selection of feeds and speeds, layout, drill bit selection, and precision drilling operations. Co-requisite: IMT 1163 or Consent of Instructor. Lecture: 0.3 credit (4.5 contact hours).
Components: Lecture

IMT 1154(0.8) Course ID:006409
Lathe Operations and Procedures
Introduces lathe operations including lathe components, grinding tool bits, the selection of feeds and speeds, turning operations, and threading. Pre-requisite: IMT 1151 or Consent of Instructor. Co-requisite: IMT 1164 or Consent of Instructor. Lecture: 0.8 credit (12 contact hours).
Components: Lecture

IMT 1155(0.6) Course ID:006410
Milling Machine and Surface Grinder Operations and Procedures
Introduces milling and surface grinding operations including vise alignment, trammng, selection of feeds and speeds, form tools, dressing grinding wheels. Pre-requisite: IMT 1151 or Consent of Instructor. Co-requisite: IMT 1165 or Consent of Instructor. Lecture: 0.6 credit (9 contact hours).
Components: Lecture

IMT 1161(0.5) Course ID:006411
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. Co-requisite: IMT 1151 or Consent of Instructor. Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1162(0.5) Course ID:006412
Vertical and Horizontal Bandsaw Operations Lab
Introduces vertical and horizontal bandsaw operations including the selection of feeds and speeds as well as blade welding. Co-requisite: IMT 1152 or Consent of Instructor. Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1163(0.5) Course ID:006413
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. Co-requisite: IMT 1153 or Consent of Instructor. Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 1164(2) Course ID:006414
Lathe Operations and Procedures Lab
Introduces lathe operations including lathe components, grinding tool bits, the selection of feeds and speeds, turning operations, and threading. Pre-requisite: IMT 1154 or Consent of Instructor. Laboratory: 2 credits (30 contact hours).
Components: Laboratory

IMT 1165(1.5) Course ID:006415
Milling Machine and Surface Grinder Operations and Procedures Lab
Introduces milling and surface grinding operations including vise alignment, trammng, selection of feeds and speeds, form tools, dressing grinding wheels. Pre-requisite: IMT 1161 or Consent of Instructor. Co-requisite: IMT 1155 or Consent of Instructor. Laboratory: 1.5 credit (45 contact hours).
Components: Laboratory

IMT 2201(1) Course ID:006416
Introduction to Motor Controls
Addresses the importance of electrical safety and the general fundamentals of motor controls. Pre-requisite: (IMT 110 and IMT 111) or Consent of Instructor. Co-requisite: IMT 2211. Lecture: 1 credit (15 contact hours).
Components: Lecture

IMT 2202(1) Course ID:006417
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. Pre-requisite: IMT 2201 or Consent of Instructor. Co-requisite: IMT 2212. Lecture: 1 credit (15 contact hours).
Components: Lecture

IMT 2203(1) Course ID:006418
Motor Control Circuits
Explores aspects of electrical symbols and specialized motor control circuit. Pre-requisite: IMT 2202 or Consent of Instructor. Co-requisite: IMT 2213. Lecture: 1 credit (15 contact hours).
Components: Lecture

IMT 2211(0.5) Course ID:006420
Motor Starters and Pilot Devices Lab
Addresses the diversity of motor starters, control devices, and circuitry. Pre-requisite: IMT 2211 or Consent of Instructor. Co-requisite: IMT 2202. Laboratory: 0.5 credit (15 contact hours).
Components: Laboratory

IMT 2213(1) Course ID:006421
Motor Control Circuits Lab
Explores aspects of electrical symbols and specialized motor control circuits. Pre-requisite: IMT 2212 or Consent of Instructor. Co-requisite: IMT 2203. Laboratory: 1.0 credit (30 contact hours).
Components: Laboratory

IMT 2231(0.5) Course ID:006434
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. Pre-requisite: (IMT 110 and IMT 111) or Consent of Instructor. Co-requisite: IMT 2221. Lecture: 0.5 credits (15 contact hours).
Components: Laboratory

IMT 2232(0.5) Course ID:006435
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. Pre-requisite: (IMT 110 and IMT 111) or Consent of Instructor. Co-requisite: IMT 2222. Laboratory: 0.5 credits (15 contact hours).
Components: Laboratory

IMT 2233(1) Course ID:006436
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. Pre-requisite: (IMT 110 and IMT 111) or Consent of Instructor. Co-requisite: IMT 2223. Laboratory: 1 credit (30 contact hours).
Components: Laboratory

IMT 2601(0.5) Course ID:006547
Stamping Press Basics
Addresses press and production safety, various types of presses, and press operations. Pre-requisite: (IMT 115 & IMT 116) or (MTT 114) or (MTT 110 & MTT 112) or (IMT 110 & IMT 111) or Consent of Instructor. Lecture: 0.5. (Contact Hours 7.5).
Components: Lecture

IMT 2602(0.5) Course ID:006548
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. Pre-requisite: IMT 2601 or Consent of Instructor. Lecture: 0.3 credits (4.5 contact hours), Lab: 0.2 credits (6 contact hours).
Components: Lecture

IMT 2603(1.3) Course ID:006550
Stamping Die Processes
Addresses various stamping die processes such as bending, forming, drawing, squeezing, and coining. Pre-requisite: IMT 2602 or Consent of Instructor. Lecture: 1.3 (Contact Hours 36).
Components: Lecture
IMT 2604(0.6) Course ID:006549
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. Pre-requisite: IMT 2603 or Consent of Instructor. Lecture: 0.1 credits(1.5 Contact Hours), Lab: 0.5 credits (15 contact hours).

Components: Lecture

IMT 2605(1.2) Course ID:006551
Anatomy of Stamping Dies
Addresses pads and strippers, spring selection, and the characteristics of nitrogen die pressure systems. Pre-requisite: IMT 2605 or Consent of Instructor. Lecture: 1.3 (Contact Hours 34.5).

Components: Lecture

Same As Offering: IMT 2606

IMT 2607(1.6) Course ID:006553
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. Pre-requisite: IMT 2606 or Consent of Instructor. Lecture: 0.1 credits (1.5 contact hours), Lab: 1.5 credits (45 contact hours).

Components: Lecture

IMT 2801(0.75) Course ID:006424
Introduction to Programmable Logic Controllers
Provides an overview of Programmable Controllers, their hardware and functions. Pre-requisite: (IMT 220 and IMT 221 with a grade of "C" or greater) or (equivalent) or Consent of Instructor). Co-requisite: IMT 2801 or Instructor Consent. Lecture: 0.75 credit (11.25 contact hours).

Components: Lecture

IMT 2802(0.75) Course ID:006425
Programming Instructions in PLCs
Provides an overview in programming Programmable Logic Controller Timers and Counters. Co-requisite: IMT 2812 or Instructor Consent. Lecture: 0.75 credit (11.25 contact hours).

Components: Lecture

IMT 2803(0.75) Course ID:006426
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. Co-requisite: IMT 2813 or Instructor Consent. Lecture: 0.75 credit (11.25 contact hours).

Components: Lecture

IMT 2804(0.75) Course ID:006427
Advanced Instructions and Troubleshooting PLCs
Provides an understanding of control instructions, sequences, shift registers, troubleshooting, and forcing inputs and outputs. Co-requisite: IMT 2814 or Instructor Consent. Lecture: 0.75 credit (11.25 contact hours).

Components: Lecture

IMT 2811(0.5) Course ID:006428
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. Pre-requisite: (IMT 220 and IMT 221 with a grade of "C" or greater) or (equivalent) or Consent of Instructor). Co-requisite: IMT 2801 or Instructor Consent. Laboratory: 0.5 credit (15 contact hours).

Components: Laboratory

IMT 2812(0.5) Course ID:006429
Programming Instructions in PLCs Lab
Provides practical experience in programming Programmable Logic Controller Timers and Counters. Co-requisite: IMT 2802 or Instructor Consent. Laboratory: 0.5 credit (15 contact hours).

Components: Laboratory

IMT 2813(0.5) Course ID:006430
Number Systems and Data Manipulation in PLCs Lab
Converts numbers systems, perform data manipulation, transfer, and comparison on the numbers as well as program math instructions. Co-requisite: IMT 2803 or Instructor Consent. Laboratory: 0.5 credit (15 contact hours).

Components: Laboratory

IMT 2814(0.5) Course ID:006431
Advanced Instructions and Troubleshooting PLCs Lab
Covers program control instructions, sequencers, and shift registers. Includes troubleshooting PLC issues and using the forcing command. Co-requisite: IMT 2804 or Instructor Consent. Laboratory: 0.5 credit (15 contact hours).

Components: Laboratory

INF 120(3) Course ID:007282
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).

Components: Lecture

Attributes: SN - Science, University Course (Northern Kentucky University)

INF 128(3) Course ID:007283
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).

Components: Lecture

Attributes: University Course (Northern Kentucky University)

INF 260(3) Course ID:007284
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).

Components: Lecture

Attributes: University Course (Northern Kentucky University)

INF 282(3) Course ID:007286
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).

Components: Lecture

Attributes: University Course (Northern Kentucky University)

INF 286(3) Course ID:007287
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 HTML and CSS; introduction to client-side and server-side programming. Lecture 3.0 credits (45 contact hours).

Components: Lecture

Attributes: University Course (Northern Kentucky University)

INF 125(2) Course ID:001607
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).

Components: Laboratory

Attributes: Technical

INS 100(3) Course ID:006586
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. Pre-requisite: Reading, English, and Mathematics assessment scores above the KCTCS developmental placement level or successful completion of the prescribed developmental course(s). Lecture: 3.0 credits (45 contact hours).

Components: Lecture

Attributes: Technical

INS 181(3) Course ID:006587
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. Pre-requisite: Reading, English, and Mathematics assessment scores above the KCTCS developmental placement level or successful completion of the prescribed developmental course(s). INS 100 or consent. MT 150 or above. Lecture: 3.0 credits (45 contact hours).

Components: Lecture

Attributes: Technical

INS 182(3) Course ID:006588
Multiple Lines Insurance Production
Introduces principles of multiple lines insurance production. Emphasizes insurance product and insurance markets in the context of commercial lines coverages. Pre-requisite: INS 181. Lecture: 3.0 credits (45 contact hours).

Components: Lecture

Attributes: Technical

IRW 085(4) Course ID:015875
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. Pre-requisite: Placement by KCTCS Assessment and Placement Policy. Lecture: 4.0 credits (60 contact hours).

Components: Lecture

Attributes: Developmental/Remedial Learning Skills
Integrates reading 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. Pre-requisite: Placement by KCTCS Assessment and Placement Policy. Lecture: 4 credits (60 contact hours).

Components: Lecture
Attributes: Technical

ISM Instrumentation and Process

ISM 102(4) Course ID:003972

Components: Lecture
Attributes: Technical

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).

Components: Laboratory, Lecture

ISM 210(4) Course ID:003976

Components: Lecture
Attributes: Technical

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).

Components: Laboratory, Lecture

ISX Industrial Safety

ISX 100(5) Industrial Safety
Course ID:001622

Components: Lecture
Attributes: Technical

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).

ISX 101(3) Introduction to Industrial Safety
Course ID:000877

Components: Lecture
Attributes: Technical

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).

ISX 105(2) General Industrial Safety
Course ID:015675

Components: Lecture
Attributes: Technical

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).

ISX 1001(1) Safety & Universal Precaution
Course ID:016784

Components: Lecture

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).

ISX 1002(1) Fire Prevention & Hazardous Com
Course ID:016785

Components: Lecture

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).

ISX 1003(1) CPR & First Aid
Course ID:016786

Components: Lecture

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).

ISX 1051(0.67) 10-hour General Industry
Course ID:015673

Components: Lecture

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).

ISX 1052(1.33) General Industry Topics
Course ID:015674

Components: Lecture

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 Co-requisite: ISX 1051. Lecture: 1.33 credits (20 contact hours).

JAT Journalism - Advertising - Telecommunications

JAT 101(3) Introduction to Communication Media
Course ID:002222

Components: Lecture
Attributes: Other

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).

JAT 241(1 - 4) Communications Practicum
Course ID:002223

Components: Independent Study
Attributes: Other

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).

JOU Journalism

JOU 101(3) Introduction to Journalism
Course ID:000788

Components: Lecture
Attributes: Other

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).

JOU 204(3) Writing for the Mass Media
Course ID:000794

Components: Lecture
Attributes: Other

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: Laboratory, Lecture

JPN Japanese

JPN 101(4) Beginning Japanese I
Course ID:003862

Components: Lecture
Attributes: Foreign Language, Cultural Studies

A course in first semester Japanese language. Lecture: 4 credits (60 contact hours).

JPN 102(4) Beginning Japanese II
Course ID:003970

Components: Lecture
Attributes: Foreign Language, Cultural Studies

A course in second semester Japanese language. Pre-requisite: JPN 101 or Equivalent. Lecture: 4 credits (60 contact hours).

JPN 201(3) Intermediate Japanese I
Course ID:003994

Components: Lecture
Attributes: Other

Focuses on developing listening, speaking, reading and writing skills in early intermediate level of Japanese. Pre-requisite: JPN 102/RAE 121 or equivalent. Lecture: 3 credits (45 contact hours).

JPN 202(3) Intermediate Japanese II
Course ID:004208

Components: Lecture
Attributes: Other

Focuses on developing listening, speaking, reading and writing skills in upper intermediate level of Japanese. Pre-requisite: JPN 201. Lecture: 3 credits (45 contact hours).

JUS Criminal Justice

JUS 101(3) Introduction to Criminal Justice
Course ID:017113

Components: Lecture
Attributes: SB - Social Behavior Science, University Course (Northern Kentucky University)

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).

JUS 231(3) Race, Gender, and Crime
Course ID:017112

Components: Lecture
Attributes: AH - Arts and Humanities, University Course (Northern Kentucky University)
KHP 106(1)  Course ID:002299  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)
Components: Laboratory
Attributes: Other

KHP 101(1)  Course ID:002300  Weightlifting
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)
Components: Laboratory
Attributes: Other

KHP 104(1)  Course ID:002304  Beginning Swimming
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)
Components: Laboratory
Attributes: Other

KHP 106(1)  Course ID:002306  Beginning Bowling
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)
Components: Laboratory
Attributes: Other

KHP 107(1)  Course ID:002307  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)
Components: Laboratory
Attributes: Other

KHP 107(1)  Course ID:017465  Military Conditioning Intermediate I
Instruction in a variety of motor skills 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. (Source: https://www.uky.edu/registrar/content/schedule-classes-fall) UK Fall 2019 Schedule of Classes Searching for Classes. May be repeated to a maximum of six credits under different subtitles. Laboratory: 1 credit hour (45 contact hours).

Components: Laboratory
Attributes: University Course (University of Kentucky)

KHP 109(1)  Course ID:002309  Dancing
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)

Components: Laboratory
Attributes: Other

KHP 115(1)  Course ID:002315  Martial Arts
Provides students with beginning instruction and experience in self-defense, basic exercise, and disciplines associated with martial arts... Lab: 1 credit (30 contact hours)

Components: Laboratory
Attributes: Other

KHP 116(1)  Course ID:002316  Intermediate Martial Arts
Provides students with intermediate instruction and experience in basic exercise and disciplines associated with martial arts. Pre-requisite: KHP 115. Lab: 1 credit (30 contact hours)

Components: Laboratory
Attributes: Other

KHP 121(1)  Course ID:002321  Aerobics
Includes beginning conditioning activities and/or vigorous nonstop rhythmic movement patterns designed to improve or maintain cardiovascular endurance for students at all levels of fitness. Lab: 1 credit (30 contact hours)

Components: Laboratory
Attributes: Other

KHP 122(1)  Course ID:002322  Low-Impact Aerobics
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)

Components: Laboratory
Attributes: Other

KHP 123(1)  Course ID:002323  Basketball
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. Laboratory: 1 credit (15 contact hours).

Components: Laboratory
Attributes: Other

KHP 124(1)  Course ID:002324  Conditioning
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)

Components: Laboratory
Attributes: Other

KHP 129(1)  Course ID:002329  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)

Components: Laboratory
Attributes: Other

KHP 130(1)  Course ID:002330  Water Aerobics
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)

Components: Laboratory
Attributes: Other

KHP 132(1)  Course ID:002332  Nautilus
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)

Components: Laboratory
Attributes: Other

KHP 134(1)  Course ID:002334  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)

Components: Laboratory
Attributes: Other

KHP 135(1)  Course ID:002335  Swimming for 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)

Components: Laboratory
Attributes: Other

KHP 136(1)  Course ID:002336  Advanced Walking for Fitness
Instruction in a variety of motor skill activities. Courses are designed for students who already possess intermediate skill 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.

Components: Laboratory
Attributes: Other

KHP 136(1)  Course ID:017466  Military Conditioning Intermediate II
Instruction in a variety of motor skills activities. The courses are designed for students who already possess intermediate skill 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. Three lab hours per week. (Source: https://www.uky.edu/registrar/content/schedule-classes-fall) UK Fall 2019 Schedule of Classes Searching for Classes. Pre-requisites: Completion of comparable service course or demonstrated competency. May be repeated to a maximum of six credits under different subtitles. Laboratory: 1 credit hour (45 contact hours).

Components: Laboratory
Attributes: University Course (University of Kentucky)

KHP 138(1)  Course ID:003855  Beginning Yoga
Provides students with instruction and activities associated with beginning yoga. Lab: 1 credit (30 contact hours)

Components: Laboratory
Attributes: Other

KHP 139(1)  Course ID:003856  Lifetime Sports
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. Laboratory: 1 credit (15 contact hours).

Components: Laboratory
Attributes: Technical

KHP 140(1)  Course ID:002341  Advanced Weight Training
Instruction in a variety of motor skill activities. Courses are designed 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. Pre-requisite: Completion of comparable service course or demonstrated competency. Laboratory: 3.0 credit hours.

Components: Laboratory
Attributes: Other

KHP 142(1)  Course ID:002342  Advanced Aerobics
Instruction in a variety of motor skills activities. Courses are designed 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. Pre-requisite: Completion of comparable service course or demonstrated competency. Laboratory: 3.0 credit hours.

Components: Laboratory
Attributes: Other
KHP 143(1) Course ID:002343
Intramurals
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, Pre-requisite: Completion of comparable service course or demonstrated competency. Laboratory: 3.0 credit hours.
Components: Laboratory
Attributes: Other
KHP 145(3) Course ID:003870
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)
Components: Lecture
Attributes: Other
KHP 154(1) Course ID:016371
Intermediate Yoga
Provides students with intermediate instruction and activities associated with yoga. Laboratory: 1 credit (30 contact hours).
Components: Laboratory
Attributes: Other
KHP 149(1) Course ID:016372
Advanced Yoga
Provides students with advanced instruction and activities associated with yoga. Laboratory: 1 credit (30 contact hours). Pre-requisite or Co-requisite: KHP 146.
Components: Laboratory
Attributes: Other
KHP 150(3) Course ID:006816
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).
Components: Lecture
Attributes: Technical
KHP 160(3) Course ID:006817
Personal Nutrition and Fitness
Introduces the importance of 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).
Components: Lecture
Attributes: Technical
KHP 190(2) Course ID:000029
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.
Components: Laboratory, Lecture
Attributes: Other
KHP 225(3) Course ID:006818
Exercise Techniques and Physical Training
Focuses on the core components of personal training. Provides information and resources necessary to pass personal fitness trainer certification. Pre-requisite: BIO 135 or MSG 100 (or consent of instructor). Co-requisite: KHP 235. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Other
KHP 230(3) Course ID:000379
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).
Components: Lecture
Attributes: Other
KHP 235(2) Course ID:0006820
Personal Trainer Practicum
Students will apply personal training principles and techniques and demonstrate skills with clients in various settings under instructor and preceptor supervision. Pre-requisite: BIO 135 or MSG 100. Co-requisite: KHP 225. Practicum: 2.0 credits (60 contact hours).
Components: Practicum
Attributes: Other
KHP 240(3) Course ID:002226
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).
Components: Laboratory, Lecture
Attributes: Other
KMA 100(5) Course ID:001629
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. Pre-requisite: [MNNA 100 or NAA 100 or NAA 125] and six months of work experience as a Kentucky Medicaid Nurse Aide) or Consent. Lecture/Lab: 5.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical
LAS 201(3) Course ID:015525
Introduction to Latin America
An interdisciplinary approach to the people, culture, and development of the Latin American republics. Attention will be concentrated on significant aspects of the indigenous peoples, geography, economic processes, gender roles, social structures and politics of Latin America, with special attention paid to value structures and value conflicts. Musical, literary and artistic expression in Latin America will also be introduced. Lecture: 3.0 credits (45 contact hours)
Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities, University Course (University of Kentucky)
LIN 175(3) Course ID:015987
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)
Components: Lecture
Attributes: SB - Social Behavior Science, University Course (Northern Kentucky University)
LIT 115(3) Course ID:004801
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)
Components: Lecture
Attributes: Technical
LIT 120(3) Course ID:007416
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)
Components: Lecture
Attributes: Technical
LIT 243(3) Course ID:004807
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)
Components: Lecture
Attributes: Technical
LIT 245(3) Course ID:005083
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)
Components: Lecture
Attributes: Technical
LIT 247(3) Course ID:004808
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)
Components: Lecture
Attributes: Technical
LIT 248(3) Course ID:004809
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).
Components: Lecture Attributes: Technical

LIT 280(3) Course ID:004810
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).
Components: Lecture Attributes: Technical

LIT 285(3) Course ID:005051
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: Lecture Attributes: Technical

LIT 299(1 - 3) Course ID:004811
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).
Components: Lecture Attributes: Technical

LOM Logistics and Operations Management

LOM 100(3) Course ID:006627
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).
Components: Lecture Attributes: Technical

LOM 101(3) Course ID:006628
Transportation Management
Presents an overview of the role of transportation and pricing issues; transportation modes and terminals; and transportation management and global supply chain issues. Pre-requisite: LOM 100. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

LOM 102(3) Course ID:006629
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. Pre-requisite: LOM 100. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

LOM 180(3) Course ID:004629
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. Pre-requisite: Digital literacy or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

LOM 180(3) Course ID:004629
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. Pre-requisite: Digital literacy or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

LOM 180(3) Course ID:004629
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. Pre-requisite: Digital literacy or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

MA Mathematics

MA 111(3) Course ID:004907
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 is not serve as a Pre-requisite for any calculus course. Credit not available on that basis. Special examination. Pre-requisite: Two years of high school algebra and a Math ACT score of 19 or above, or MA 108, or math placement test. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: QR - Quantitative Reasoning, University Course (University of Kentucky)

MA 112(4) Course ID:006625
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. Pre-requisites: 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. 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).
Components: Discussion, Lecture Attributes: QR - Quantitative Reasoning, University Course (University of Kentucky)

MA 114(4) Course ID:006626
Calculus II
A continuation of MA 113, primarily stressing techniques of integration. Lecture, 3 hours; recitation, 2 hours per week. Pre-requisites: High school trigonometry or MA 112 (UK), and a grade of C or better in MA 113 (UK), MA 137 or MA 132 (UK). Lecture: 3.0 credit hours (45 contact hours). Discussion: 1.0 credit (30 contact hours).
Components: Discussion, Lecture Attributes: QR - Quantitative Reasoning, University Course (University of Kentucky)

MA 162(3) Course ID:006628
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. Pre-requisites: MA 109 (UK) or equivalent. Lecture 3.0 credits (45 contact hours).
Components: Lecture Attributes: QR - Quantitative Reasoning, University Course (University of Kentucky)

MA 193(1) Course ID:006629
Supplementary Mathematics Workshop I
Laboratory offered (only) as an adjunct to certain mathematics lecture courses. Offered only on a pass/fail basis. Co-requisites: Set by instructor. Lab 1.0 credit (30 contact hours).
Components: Laboratory Attributes: University Course (University of Kentucky)

MA 194(1) Course ID:006630
Supplementary Mathematics Workshop II
Laboratory offered (only) as an adjunct to certain mathematics lecture courses. Offered only on a pass/fail basis. Co-requisites: Set by instructor. Lab 1.0 credit (30 contact hours).
Components: Laboratory Attributes: University Course (University of Kentucky)

MA 201(3) Course ID:006631
Mathematics for Elementary Teachers
Sets, numbers and operations, problem solving and number theory. Recommended only for majors in elementary and middle school education. Pre-requisites: MA 109 (UK) or MA 111 (UK). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: QR - Quantitative Reasoning, University Course (University of Kentucky)

MA 202(3) Course ID:006632
Mathematics for Elementary Teachers
Algebraic reasoning, introduction to statistics and probability, geometry, and measurement. Pre-requisites: A grade of "C" or better in MA 201 (UK). Also recommended: a course in logic (e.g. PHI 120) or a course in calculus (e.g. MA 123 (UK)). Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: QR - Quantitative Reasoning, University Course (University of Kentucky)
MAI 105(3)  Course ID:004342
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. Pre-requisite: Acceptance into the Medical Assisting program or Consent of Medical Assisting Coordinator/Director. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

MAI 120(3)  Course ID:004090
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. Components: Laboratory, Lecture Attributes: Technical

MAI 140(4)  Course ID:004091
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. Pre-requisite: Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director. Lecture Lab: 4.0 credits (90 contact hours).
Components: Laboratory, Lecture Attributes: Technical

MAI 150(3)  Course ID:004092
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. Pre-requisite: Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

MAI 170(2)  Course ID:004093
Department Consent Required
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. Pre-requisite: Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director. Lecture: 2 credits (30 contact hours).
Components: Lecture Attributes: Technical

MAI 200(3)  Course ID:004094
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. 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. All Pre-requisites must be achieved with a grade of "C" or greater. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

MAI 220(3)  Course ID:004095
Medical Assisting Laboratory Techniques II
Relates to laboratory procedures waived complexity testing performed in the physician’s office laboratory. STresses CLIA and OSHA regulations. Pre-requisite: MAI 120 with a grade of "C" or greater or Consent of Medical Assisting Coordinator/Director. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (30 contact hours). Components: Laboratory, Lecture Attributes: Technical

MAI 230(3)  Course ID:004096
Department Consent Required
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. Pre-requisite: Acceptance into the Medical Assisting Program or Consent of Medical Assisting Coordinator/Director. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

MAI 240(4)  Course ID:004097
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. Pre-requisite: MAI 140 with a grade of "C" or greater or Consent of Program Coordinator. Lecture: 3 credits (45 contact hours); Lab: 1 credit (45 contact hours).
Components: Laboratory, Lecture Attributes: Technical

MAI 250(3)  Course ID:004098
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. Pre-requisite: MAI 150 with a grade of "C" or greater OR Consent of Program Coordinator. Lecture/Lab: 3.0 credits (45 contact hours).
Components: Laboratory, Lecture Attributes: Technical

MAI 270(3)  Course ID:004100
Pharmacology for the Medical Assistant
Examines pharmacology with concentration on prescriptions, drug nomenclature, classification of drugs, patient education, medication preparation and administration. 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. Lecture: 2.0 credits (30 contact hours); Lab: 1.0 credit (45 contact hours).
Components: Laboratory, Lecture Attributes: Technical

MAT 281(1)  Course ID:004101
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. Components: Clinical Attributes: Technical

MAT 284(2 - 3)  Course ID:015672
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). Pre-requisite: MAI 281 and Consent of Medical Assisting Program Coordinator/Director. Practicum: 2.0 - 3.0 credits (120-180 contact hours).
Components: Practicum Attributes: Technical

MAT 289(1 - 2)  Course ID:016764
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. Pre-requisite: Consent of Program Coordinator. Laboratory: 1.0-2.0 credit hours (30-60 contact hours).
Components: Laboratory Attributes: Technical

MAT 289(1 - 4)  Course ID:004341
Instructor Consent Required
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.
Components: Laboratory, Lecture Attributes: Technical

MAT Mathematics

MAT 011(3)  Course ID:015623
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. Pre-requisite: KCTCS Placement Exam. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Remedial - Mathematics
MAT 050(1 - 2) Course ID:004565
Developmental Mathematics Workshop
Provides supplemental academic support such as extra class sessions, tutoring, and/or increased monitoring to promote student success. May be associated with any developmental math course offered through KCTCS and may be repeated for each math course. Credit cannot be received by special exam. Co-requisite: Set by instructor. Laboratory: 1-2 credits (30-60 contact hours).
Components: Laboratory
Attributes: Remedial - Mathematics

MAT 055(3) Course ID:004555
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. Pre-requisite: KCTCS Placement Examination. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics, Course Also Offered in Modules

MAT 055A(1.6) Course ID:007338
Integers, Fractions and Decimals
Covers the properties of real numbers, prime factorization of whole numbers, rounding of whole numbers, and decimals to an indicated place value. Includes basic operations, order of operations, and absolute value on integers, fractions, and decimals. Permits the conversion among fractions, decimals, and percents; evaluation of whole number powers of integers, fractions, and decimals; and the evaluation of square roots of perfect squares of integers, fractions, and decimals. Pre-requisite: KCTCS Placement Examination. Lecture: 1.6 credits (24 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 055B(0.7) Course ID:007339
Algebraic Expressions
Includes the evaluation of algebraic expressions, simplifying algebraic expressions, solving problems involving ratio and proportion, and solving problems involving percent. Pre-requisite: MAT 055A. Lecture: 0.7 credits (10.5 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 055C(0.7) Course ID:007340
Beginning Linear Equations
Uses both the addition and multiplication properties to solve a linear equation. Includes how to determine the length of the unknown side of a right triangle using the Pythagorean Theorem and to determine the perimeter, circumference, area, surface area, and volume of basic plane figures and solids. Covers how to solve applied problems using these competencies with real world applications. Pre-requisite: MAT 055B. Lecture: 0.7 credits (10.5 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 061(4) Course ID:017297
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. Pre-requisite: KCTCS Placement Policy. Lecture: 4 credits (60 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 062(3) Course ID:007375
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.
Components: Lecture
Attributes: Remedial - Mathematics

MAT 065A(0.8) Course ID:007341
Linear Equations and Inequalities
Includes solving linear equations in one variable, literal equations for a specified variable, and linear inequalities. Covers writing sets using interval and set-builder notations and translating verbal statements into algebraic expressions. Pre-requisite: MAT 055 or KCTCS Placement Examination. Lecture: 0.8 credits (12 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics, Course Also Offered in Modules

MAT 065B(0.3) Course ID:007342
Polynomials
Includes the application of rules of integer exponents; addition, subtraction, and multiplication of polynomials of one or more variables; and division of polynomials of one variable. Pre-requisite: MAT 065A. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 065C(0.8) Course ID:007343
Lines
Includes plotting points in the rectangular coordinate plane; graphing a linear equation in two variables using multiple methods; determining the slope of a line given the two points, a graph, or an equation; determining the intercepts of a line; and determining if two lines are parallel, perpendicular, or neither based on slope. Pre-requisite: MAT 065B. Lecture: 0.8 credits (12 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 065D(0.5) Course ID:007344
Factoring
Includes the factoring of polynomials by finding the greatest common factor, by grouping, and by using special products. Covers factoring general trinomials and solving polynomial equations by factoring. Pre-requisite: MAT 065C. Lecture: 0.5 credits (7.5 contact hours).
Components: Laboratory
Attributes: Remedial - Mathematics

MAT 065E(0.4) Course ID:007345
Systems of Linear Equations
Includes solving systems of linear equations in two variables using multiple methods and solving applied problems using these competencies with real world applications. Pre-requisite: MAT 065D. Lecture: 0.4 credits (6.0 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 071(3) Course ID:017181
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. Pre-requisite: KCTCS placement examination. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 075(4) Course ID:015659
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. Pre-requisite: MAT 055 or equivalent as determined by KCTCS placement examination. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 085(3) Course ID:007045
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. Pre-requisite: MAT 065 or MAT 075 or KCTCS placement examination. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 096(1 - 2) Course ID:015815
Supplemental Mathematics
Provides academic support for students scoring below the system-wide standard into a quantitative-reasoning course. Serves as supplemental co-requisite for students with borderline test scores, as defined in the KCTCS course placement policy. If students withdraw from MAT 096, they must also withdraw from the co-requisite course. Co-requisite: A quantitative-reasoning course requiring supplemental instruction. Lecture: 1.0 - 2.0 credits (15 - 30 contact hours).
Components: Lecture
Attributes: Remedial - Mathematics

MAT 100(2) Course ID:002374
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). Pre-requisite: Concurrent enrollment in MAT 150. NOTE: Effective Fall 2010 ACT 19.
Components: Lecture
Attributes: Other, Course Also Offered in Modules, Remedial Mathematics

MAT 105(3) Course ID:004557
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. Pre-requisite: 1. MAT 061, MAT 062, MAT 065, MAT 071, MAT 075, or MAT 085, OR 2. Completion of MAT 055 and concurrent enrollment in MAT 105S, OR 3. KCTCS placement policy. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Quantitative Reasoning AAS

MAT 105S(1 - 2) Course ID:017289
Co-requisite Remediation for Business Mathematics
Components: Lecture
Attributes: Other

MAT 110(3) Course ID:004558
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, description statistics, and logical symbolism. Emphasizes applications in the various technologies. Pre-requisite: 1. MAT 061, MAT 062, MAT 065, MAT 071, MAT 075, or MAT 085, OR 2. Completion of MAT 055 and concurrent enrollment in MAT 110S, OR 3. KCTCS placement policy. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Quantitative Reasoning AAS, Course Also Offered in Modules

313
MAT 1105(1 - 2)  Course ID:017291
Corequisite Remediation for Applied Mathematics
Components: Lecture
Attributes: Other
MAT 116(3)  Course ID:004559
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. Pre-requisite: 1. MAT 061, MAT 062, MAT 065, MAT 071, MAT 075, or MAT 085, OR 2. Completion of MAT 055 and concurrent enrollment in MAT 116S, OR 3. KCTCS placement policy. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Quantitative Reasoning AAS, Course Also Offered in Modules
MAT 116S(1 - 2)  Course ID:017293
Corequisite Remediation for Technical Mathematics
Components: Lecture
Attributes: Other
MAT 126(3)  Course ID:004562
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. Pre-requisite: 1. MAT 061, MAT 065, MAT 071, MAT 075, or MAT 085, OR Completion of MAT 055 and concurrent enrollment in MAT 126S, OR KCTCS placement policy. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Quantitative Reasoning AAS
MAT 126S(1 - 2)  Course ID:017294
Corequisite Remediation for Technical Algebra and Trigonometry
Components: Lecture
Attributes: Other
MAT 141(3)  Course ID:017208
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.) Pre-requisite or Co-requisite: College Readiness or concurrent enrollment in MAT 141-S or MAT 061 or MAT 065 or MAT 071 or MAT 075. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: QR - Quantitative Reasoning
MAT 141S(1)  Course ID:017209
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. Co-requisite: MAT 141. Lecture: 1 credit hour (15 contact hours).
Components: Lecture
Attributes: Other
MAT 146(2)  Course ID:002375
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. Pre-requisite: 1. Math ACT score of 19 or above, OR 2. Successful completion of MAT 061, MAT 065, MAT 071, MAT 075, MAT 085, MAT 126, or equivalent, OR 3. KCTCS placement policy including concurrent enrollment in MAT 146S as appropriate. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: QR - Quantitative Reasoning, Course Also Offered in Modules
MAT 146S(1 - 2)  Course ID:017295
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. Co-requisite: MAT 146. Lecture: 1-2 credit hours (15-30 contact hours).
Components: Lecture
Attributes: Other
MAT 150(3)  Course ID:002376
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.) Pre-requisite: 1. Math ACT score of 22 or above; 2. Math ACT score of 19-21 with concurrent MAT 100 workshop; 3. Successful completion of MAT 061, MAT 065, or MAT 075 with concurrent MAT 100 workshop; 4. Successful completion of MAT 071, MAT 085, MAT 126, or equivalent; or 5. KCTCS placement exam recommendation. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: QR - Quantitative Reasoning, Course Also Offered in Modules
MAT 151(3)  Course ID:017087
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.) Pre-requisite: College Readiness in Mathematics. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: QR - Quantitative Reasoning
MAT 151S(1)  Course ID:017074
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).
Components: Lecture
Attributes: Other, Supplemental Mathematics
MAT 154(2)  Course ID:000552
Trigonometry
Includes trigonometric functions, identities, multiple analytic formulas, laws of sines and cosines, graphs of trigonometric functions, and inverse trigonometric functions. Pre-requisite: Completion of MAT 071 or MAT 150 or a college intermediate algebra course or two years of high school algebra. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Course Equivalents: MAT 155
Attributes: QR - Quantitative Reasoning
MAT 155(3)  Course ID:004563
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).
Components: Lecture
Attributes: QR - Quantitative Reasoning
MAT 159(4)  Course ID:000543
Analytic Geometry and Trigonometry
Includes trigonometric functions, trigonometric identities, graphs of trigonometric functions, and inverse trigonometric functions, polynomial and rational functions, the arithmetic, geometric, 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. 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. Lecture: 4.0 credits (60 contact hours).
Components: Lecture
Course Equivalents: MAT 160
Attributes: QR - Quantitative Reasoning
MAT 160(5)  Course ID:005312
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). Pre-requisite: 1. Math ACT score of 23 or above, 2. Placement exam recommendation, or 3. Consent of instructor.
Components: Lecture
Course Equivalents: MAT 159
Attributes: QR - Quantitative Reasoning
MAT 161(5)  Course ID:017175
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.) Pre-requisite: 1. ACT Math of 22 or MAT 071 or MAT 085 or 2. KCTCS placement policy including concurrent enrollment in MAT 161-S or 3. Completion of MAT 061 and concurrent enrollment in MAT 161-S.
Components: Lecture
Attributes: QR - Quantitative Reasoning
MAT 161S(2)  Course ID:017174
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. Co-requisite: MAT 161. Lecture: 2 credit hours (30 contact hours).
Components: Lecture
Attributes: Other
MAT 165(3) Course ID:005313
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 equivalent. Components: Lecture Attributes: QR - Quantitative Reasoning

MAT 170(3) Course ID:005314
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. Components: Lecture Attributes: QR - Quantitative Reasoning, Course Also Offered in Modules

MAT 171(5) Course ID:017123
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. Pre-requisite: ACT Mathematics score of 23 or equivalent, or MAT 071 or MAT 085. Lecture: 5 credits (75 contact hours). Components: Lecture Attributes: QR - Quantitative Reasoning, Other

MAT 174(4) Course ID:000553
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. Pre-requisite: MAT/ACT score of 27 or above, or MAT 150 and MAT 154, or MAT 159, or consent of instructor. Lecture/Lab: 4 credits (75 contact hours). Components: Lecture Course Equivalents: MAT 175 Attributes: QR - Quantitative Reasoning

MAT 175(5) Course ID:005315
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). Pre-requisite: 1. College Algebra and Trigonometry, or equivalent, with a grade of "C" or higher. 2. Math ACT 27 or above. 3. Placement exam recommendation, or 4. Consent of instructor. Components: Lecture Course Equivalents: MAT 174 Attributes: QR - Quantitative Reasoning

MAT 184(4) Course ID:000557
Calculus II
Stresses techniques of integration and infinite series. Includes transcendental functions and polar coordinates. A continuation of MAT 174. Pre-requisite: MAT 174 with a grade of C or above. Lecture/Lab: 4.0 credits (75 contact hours). Components: Lecture Course Equivalents: MAT 185 Attributes: QR - Quantitative Reasoning

MAT 185(5) Course ID:005316
Calculus II
Includes applications of integration, advanced integration techniques, sequences and infinite series, and parametric and polar equations. Pre-requisite: Calculus I, or equivalent, with grade of "C" or higher, or consent of the instructor. Lecture: 5.0 credits (75 contact hours). Components: Lecture Course Equivalents: MAT 184 Attributes: QR - Quantitative Reasoning

MAT 195(1 - 2) Course ID:015479
Mathematics Workshop
Promotes student success in mathematics by providing supplemental instruction in the form of extra class sessions. Co-requisite: Mathematics course numbered higher than MAT 100. Lab: 1.0-2.0 credits (30-60 contact hours). Components: Laboratory Attributes: Other

MAT 205(3) Course ID:005622
Mathematics For Elementary and Middle School Teachers I
Introduces problem solving, number and numeral 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. Pre-requisite: MAT 141 or MAT 146 or MAT 150 or equivalent, with a minimum grade of "C". Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Other

MAT 206(3) Course ID:005623
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. Pre-requisite: MAT 141 or MAT 146 or MAT 150 or equivalent, with a minimum grade of "C". Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Other

MAT 210(3) Course ID:006894
Calculus III with Linear Algebra
Examines multivariate calculus. Includes partial differentiation, multiple integration, vector calculus, and linear independence of vectors, linear transformations, characteristic values and vectors. Offered primarily for STEM majors. Pre-requisite: Successful completion of Calculus II. Lecture/Lab: 4.0 credits (75 contact hours). Components: Integrated Laboratory, Integrated Lecture Attributes: Other

MAT 212(3) Course ID:006895
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. Pre-requisite: Successful completion of Calculus III with Linear Algebra. Lecture: 3.0 credits (75 contact hours). Components: Lecture

MAT 251(3) Course ID:003966
Introduction to Number Theory
Investigates topics from classical number theory, including discussions of mathematical induction, prime numbers, division algorithms, congruences, and quadratic reciprocity. Pre-requisite: Consent of instructor. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: QR - Quantitative Reasoning

MAT 275(4) Course ID:005318
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. Pre-requisite: MAT 185 or equivalent, or Consent of instructor. Lecture: 4 credits (60 contact hours). Components: Lecture Attributes: QR - Quantitative Reasoning

MAT 285(3) Course ID:005319
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. Pre-requisite: MAT 275 or Consent of instructor. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: QR - Quantitative Reasoning

MAT 0851(0.3) Course ID:007329
Equations of Lines
Converses the writing equations of lines from given data, verbal descriptions, and graphs; and writing the equation of a line parallel or perpendicular to a given line. Pre-requisite: MAT 085 or MAT 075 or KCTCS placement examination. Lecture: 0.3 credits (45 contact hours). Components: Lecture Attributes: Remedial - Mathematics

MAT 0852(0.6) Course ID:007330
Absolute Value and Inequalities
Includes solving absolute value equations, compound inequalities, solving and graphing absolute value inequalities; and graphing linear inequalities in two variables. Pre-requisite: MAT 0851. Lecture: 0.6 credits (90 contact hours). Components: Lecture Attributes: Remedial - Mathematics

MAT 0853(0.4) Course ID:007331
Rational Expressions
Includes the simplification of rational expressions, performing basic operations with rational expressions, and solving equations with rational expressions. Pre-requisite: MAT 0852. Lecture: 0.4 credits (60 contact hours). Components: Lecture Attributes: Remedial - Mathematics

MAT 0854(0.8) Course ID:007332
Radicals
Covers the conversion between radical and rational exponent form, simplification of radicals, performance of operations with radicals, and the solution of equations involving radicals. Pre-requisite: MAT 0853. Lecture: 0.6 credits (90 contact hours). Components: Lecture Attributes: Remedial - Mathematics

MAT 0855(0.3) Course ID:007333
Quadratics
Includes solving quadratic equations with complex solutions using completing the square and the quadratic formula. Covers graphing parabolas by finding the vertex, finding the axis of symmetry, and plotting points. Pre-requisite: MAT 0854. Lecture: 0.3 credits (45 contact hours). Components: Lecture Attributes: Remedial - Mathematics

MAT 0856(0.8) Course ID:007334
Functions
Includes the evaluation of a function using function notation, determination of whether a given correspondence or graph represents a function, determination of the domain of a function, [and identification of the range of a function. Includes modeling and solving applications based on linear, quadratic, and exponential functions. Pre-requisite: MAT 0855. Lecture: 0.8 credits (12 contact hours). Components: Lecture Attributes: Remedial - Mathematics

MAT 1101(0.7) Course ID:006142
Logic and Reasoning
Investigates concepts of logical symbolism, valid and invalid arguments. Uses applications throughout. Pre-requisite: MAT 065 or equivalent as determined by KCTCS placement examination. Lecture: 0.7 credit (10.5 contact hours). Components: Lecture

315
MAT 1102(0.8) Course ID:006143
Statistics
Develops concepts of descriptive statistics. Emphasizes applications throughout. Pre-requisite: MAT 065 or equivalent as determined by KCTCS placement examination. Lecture: 0.8 credit (12 contact hours).
Components: Lecture

MAT 1103(0.7) Course ID:006144
Algebra and Graphing
Develops concepts of ratio and proportion, linear equations in two variables, inequalities, graphing and writing the equation of a line. Emphasizes applications throughout. Pre-requisite: MAT 065 or equivalent as determined by KCTCS placement examination. Lecture: 0.7 credit (10.5 contact hours).
Components: Lecture

MAT 1104(0.8) Course ID:006145
Consumer Math, Geometry and Measurement
Develops concepts of ratio and proportion, measurement, units and conversions, percents and interest. Emphasizes applications throughout. Pre-requisite: MAT 065 or equivalent as determined by KCTCS placement examination. Lecture: 0.8 credit (12 contact hours).
Components: Lecture

MAT 1461(0.4) Course ID:015855
Voting Theory
Explain voting theory and describe voting methods. Pre-requisite: Math ACT score of 19 or above, 2. Successful completion of Intermediate Algebra, MAT 126, or equivalent, or 3. KCTCS placement exam recommendation. Lecture: 0.4 credits (6 contact hours)
Components: Lecture

MAT 1462(1.1) Course ID:015856
Finance
Analyze finances, calculate compound interest, analyze savings plans and investments, calculate installment loan payments, calculate income taxes, and analyze budgets. Pre-requisite: MAT 1461. Lecture: 1.1 credits (16.5 contact hours)
Components: Lecture

MAT 1463(0.5) Course ID:015857
Population Growth
Calculate linear, exponential, and logistic growth. Pre-requisite: MAT 1462. Lecture: 0.5 credits (7.5 contact hours)
Components: Lecture

MAT 1464(1) Course ID:015858
Contemporary Math Special Topics
Analyze concepts and perform calculations in at least two of the special topics in contemporary college mathematics: Apportionment, probability and statistics, geometry, logic, graph, theory, number theory, game theory and set theory. Pre-requisite: MAT 1463. Lecture: 1.0 credits (15 contact hours)
Components: Lecture

MAT 1701(0.6) Course ID:016159
Integration
Discuss the fundamental theorem of calculus. Find the average value of a function. Find indefinite and definite integrals of a function using integration rules for algebraic functions. Find definite and indefinite integrals using substitution. Pre-requisite: MAT 1703. Lecture: 0.6 credits (9 contact hours)
Components: Lecture

MAT 1704(0.5) Course ID:016160
Integration
Discuss the fundamental theorem of calculus. Find the average value of a function. Find indefinite and definite integrals of a function using integration rules for algebraic functions. Find definite and indefinite integrals using substitution. Pre-requisite: MAT 1703. Lecture: 0.5 credits (7.5 contact hours)
Components: Lecture

MAT 1705(0.5) Course ID:016161
Applications of Integration
Use definite integrals of find the area under a curve and between two curves. Find the integral of functions using polynomial, rational, root, exponential, and logarithmic functions. Solve application problems using integrals for biological, social, and physical sciences or business. Pre-requisite: MAT 1704. Lecture: 0.5 credits (7.5 contact hours)
Components: Lecture

MBS 110(8) Course ID:001676
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.
Components: Lecture Attributes: Technical

MBS 120(8) Course ID:001678
Coding for Reimbursement
Prepares the student to code for optimum reimbursement using the ICD, CPT, and HCPC 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.
Components: Lecture Attributes: Technical

ME 1702(0.8) Course ID:016158
Differentiation
Define the derivative of a function; evaluate the derivative of a function using the definition; evaluate the derivative of a function using differentiation rules for algebraic functions and the product, quotient, and chain rules; use the derivative of a function to find the equation of a tangent line; perform implicit differentiation; define the differential; and use differentials to approximate function values. Pre-requisite: MAT 1701. Lecture: 0.8 credits (12 contact hours)
Components: Lecture

ME 1703(0.6) Course ID:016159
Differential Applications
Determine critical points; determine intervals on which a function is increasing or decreasing; identify relative extrema; identify inflection points and intervals on which a function is concave up or concave down. Solve application problems involving relative rates and optimization for biological, social, or physical sciences and business. Determine whether a function is differentiable at a point. Find the derivative of functions including polynomial, rational, root, exponential, and logarithmic functions. Pre-requisites: MAT 1702. Lecture: 0.6 credits (9 contact hours)
Components: Lecture

ME 1704(0.5) Course ID:016160
Integration
Discuss the fundamental theorem of calculus. Find the average value of a function. Find indefinite and definite integrals of a function using integration rules for algebraic functions. Find definite and indefinite integrals using substitution. Pre-requisite: MAT 1703. Lecture: 0.5 credits (7.5 contact hours)
Components: Lecture

ME 1705(0.5) Course ID:016161
Applications of Integration
Use definite integrals of find the area under a curve and between two curves. Find the integral of functions using polynomial, rational, root, exponential, and logarithmic functions. Solve application problems using integrals for biological, social, and physical sciences or business. Pre-requisite: MAT 1704. Lecture: 0.5 credits (7.5 contact hours)
Components: Lecture

ME 205(3) Course ID:004291
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/Lab: 2.0 credit hours (30 contact hours)
Components: Lecture Attributes: Technical

MGT 120(3) Course ID:004897
Personal Finance
Information needed to make intelligent choices and take effective action in the management of personal resources is provided. Topics include financial planning, buying, borrowing, saving, budgeting, investing, insurance, and taxes. Lecture: 3 credits (45 contact hours)
Components: Lecture Attributes: Technical
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course ID</th>
<th>Course Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>MGT 160(3)</td>
<td>004899</td>
<td>Introduction to Business</td>
<td>Business careers, terminology, and the interrelationships and complexities of business are introduced and examined in this survey course. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 200(3)</td>
<td>004900</td>
<td>Small Business Management</td>
<td>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. Pre-requisite: BAS 160 or MGT 160 or consent of instructor. Lecture: 3.0 credits (45 contact hours). Components: Lecture Course Equivalents: BAS 200 Attributes: Technical</td>
</tr>
<tr>
<td>MGT 210(3)</td>
<td>017114</td>
<td>Managing Quality</td>
<td>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. Pre-requisite: BAS 160. Lecture: 3 credit hours (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 240(3)</td>
<td>005460</td>
<td>Business Ethics and Self Management</td>
<td>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). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 256(3)</td>
<td>004901</td>
<td>Operations Management</td>
<td>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. Pre-requisite: BAS 160. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 258(3)</td>
<td>006642</td>
<td>Project Management</td>
<td>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. Pre-requisite: BAS 160. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 267(3)</td>
<td>004913</td>
<td>Introduction to Business Law</td>
<td>The student is introduced to the state and federal court systems, tort and criminal law, law of contracts, partnerships, sale of goods, government regulations, bailments and negotiable instruments. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 274(3)</td>
<td>004914</td>
<td>Human Resource Management</td>
<td>The student is introduced to the basic methods of recruiting, selecting, training, compensating, and maintaining a productive workforce. Concepts of effective employment 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. Pre-requisite: MGT 283 or consent of instructor. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 283(3)</td>
<td>004916</td>
<td>Principles of Management</td>
<td>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. Pre-requisite: BAS 160 or MGT 160 or consent of instructor. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 284(3)</td>
<td>004917</td>
<td>Applied Management Skills</td>
<td>A capstone course in which management theories and techniques are applied with emphasis on the action-skills that managers need for success. Course topics include delegating, motivating employees, team-building, conflict management, coaching and managing change. Pre-requisite: BAS 283/MGT 283 or prior supervisory experience. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 287(3)</td>
<td>005217</td>
<td>Supervisory Management</td>
<td>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. Pre-requisite: MGT 283 or consent of the instructor. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 288(3)</td>
<td>004918</td>
<td>Self-Management</td>
<td>The need for managers to be self-directed before they can manage successfully the work of others is emphasized. Contemporary approaches to developing the behavioral skills needed to improve personal effectiveness are explored. Topics include personal planning and goal setting, time management, stress management, interpersonal and human relations skills. Lecture: 3 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MGT 292(3)</td>
<td>016855</td>
<td>Strategic Management</td>
<td>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. Pre-requisite: MGT 283 or BAS 283. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
</tr>
<tr>
<td>MIL 101(2)</td>
<td>015681</td>
<td>Military Mountaineering and Leadership</td>
<td>This course is designed to be an introductory course to military science with emphasis on the following: Goal-setting, Physical Fitness Planning, Stress and Time Management, Mountaineering (which includes terminology, tools, and skills, rope management, knots, and rappelling/belaying techniques), and Basic Marksmanship. Additionally, cadets will receive an overview of Army Officership and the leadership skills necessary to succeed in any chosen career. Special attention will be given to the opportunities afforded an Army officer. Satisfactory completion of this course may be used to fulfill a General Education Category F requirement at Western Kentucky University (WKU). Lecture: 2.0 credits (2 contact hours). Components: Lecture Attributes: University Course (Western Kentucky University)</td>
</tr>
<tr>
<td>MIT 103(3)</td>
<td>004510</td>
<td>Medical Office Terminology</td>
<td>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). Components: Lecture Attributes: Course Also Offered in Modules, Technical</td>
</tr>
<tr>
<td>MIT 104(3)</td>
<td>004103</td>
<td>Medical Insurance</td>
<td>Introduces students to the basics of medical insurance including: insurance terminology, various coding systems, government programs, and general insurance procedures. Pre-requisite Or Co-requisite: MIT 103 or AHS 115 or CLA 131. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>MIT 106(3)</td>
<td>004104</td>
<td>Introduction to Medical Transcription</td>
<td>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. Pre-requisite: Computer Literacy course and OST 110 and (ENG 101 or OST 108) and (AHS 115 or CLA 131 or MIT 103). Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>MIT 204(3)</td>
<td>004105</td>
<td>Medical Coding</td>
<td>Develops medical coding skills using government mandated coding systems as applied. Includes other reimbursement methods and medical insurance concepts. Pre-requisite Or Co-requisite: MIT 104, BIO 135 or Equivalent. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>MIT 205(3)</td>
<td>004509</td>
<td>Advanced Medical Coding</td>
<td>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 abuse. Pre-requisite: MIT 204 or MBS 120. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<tr>
<td>MIT 206(3)</td>
<td>0044106</td>
<td>Medical Transcription</td>
<td>Applies advanced concepts of medical transcription and provides advanced practice. Pre-requisite: MIT 106 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours). Components: Lecture Attributes: Technical</td>
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<td>Course Code</td>
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<tr>
<td>MIT 208(3)</td>
<td>Instructor Consent Required Inpatient Coding</td>
<td>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. Pre-requisite: MIT 204. Lecture: 3.0 credits (45 contact hours).</td>
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<tr>
<td>MIT 212(1)</td>
<td>Medications</td>
<td>Introduces the student to Pharmacology: the most commonly used drugs, their names, and classification; and drug reference books while stressing spelling. Pre-requisite: (MIT 103 or AHS 115 or CLA 131) or Consent of Instructor. Lecture: 1.0 credit (15 contact hours).</td>
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<tr>
<td>MIT 217(3)</td>
<td>Medical Office Procedures</td>
<td>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 Co-requisite: OST 110 OR CIT 105 or OST 105 or consent of instructor. Lecture: 3.0 credits (45 contact hours).</td>
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<tr>
<td>MIT 224(3)</td>
<td>Medical Practice Management</td>
<td>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 Co-requisite: MIT 230, MIT 217, MIT 104. Lecture: 3.0 credits (45 contact hours).</td>
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<tr>
<td>MIT 227(3)</td>
<td>Medical Office Software</td>
<td>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. Pre-requisite: MIT 104 &amp; MIT 217. Lecture: 3.0 credits (45 contact hours).</td>
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<tr>
<td>MIT 228(3)</td>
<td>Electronic Medical Records</td>
<td>Provides a working knowledge of computerized medical records software used in a variety of healthcare facilities. Pre-requisite: MIT 217. Lecture: 3.0 credits (45 contact hours).</td>
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<tr>
<td>MIT 240(3)</td>
<td>Medical Interpreter-Lecture</td>
<td>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. Pre-requisite or Co-requisite: (ENG 101 AND MIT 103 AND (BIO 135 OR BIO 137 AND BIO 139)) Or Instructor Consent. Lecture: 3 credits (45 contact hours).</td>
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<tr>
<td>MIT 241(1)</td>
<td>Medical Interpreter-Laboratory</td>
<td>Provides practical supervised medical interpreting experience in a clinic 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. Pre-requisite Or Co-requisite: MIT 240 OR Instructor Consent. Laboratory: 1 credit (30 contact hours).</td>
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<tr>
<td>MIT 250(3)</td>
<td>Legal Issues in Medical Information Management</td>
<td>Includes concepts and principles of law, legal principles, ethics, and issues that govern medical information management and patient health records &amp; 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).</td>
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<tr>
<td>MIT 251(3)</td>
<td>Medical Information Technology Capstone</td>
<td>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. Pre-requisite: Consent of Program Coordinator. Lecture: 1.0 credit (15 contact hours). Practicum: 2.0 credits (120 contact hours).</td>
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<tr>
<td>MIT 295(3)</td>
<td>Medical Information Technology Internship</td>
<td>Enhances transition from school to work by providing non-paid work experience which provides the opportunity to apply acquired occupational skills in a realistic setting. Requires approval of the MIT Program Coordinator. Pre-requisite: Consent of Instructor. Practicum: 1.0 - 3.0 credits (45-135 contact hours).</td>
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<tr>
<td>MIT 296(1 - 3)</td>
<td>Intro to Med Terms &amp; Systems</td>
<td>Introduces medical terminology including root words, prefixes and suffixes as well as general medical terms. Introduces medical terms related to the skeletal, muscular, blood, lymph, cardiovascular and respiratory systems. Lecture: 1.0 credit (15 contact hours).</td>
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</tr>
<tr>
<td>MIT 298(3)</td>
<td>Intro to Medical Insurance</td>
<td>Introduces the basics of medical insurance including: insurance terminology and government programs. Pre-requisite OR Co-requisite: MIT 103 or MIT 103 OR AHS 115 OR CLA 131. Lecture: 1.0 credit (15 contact hours).</td>
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</tr>
<tr>
<td>MIT 302(1)</td>
<td>Medical Coding Overview</td>
<td>Introduces various coding systems. Pre-requisite: MIT 1041. Lecture: 1.0 credit (15 contact hours).</td>
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<tr>
<td>MIT 303(1)</td>
<td>Intro to Medical Forms</td>
<td>Introduces general insurance procedures and forms. Pre-requisite: MIT 1042. Lecture: 1.0 credit (15 contact hours).</td>
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<tr>
<td>MIT 305(1)</td>
<td>Coding Systems</td>
<td>Develops medical coding skills using government mandated coding systems. Includes review of health records, selection of codes, interaction with physicians, and more. Pre-requisite: MIT 104 or Consent of instructor. Co-requisite: BIO 135 or Equivalent MIT 104. Lecture: 1.0 credit (15 contact hours).</td>
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<tr>
<td>MIT 306(1)</td>
<td>Inpatient Coding</td>
<td>Develops medical coding skills for inpatient coding systems. Includes reimbursement methodologies and advanced coding practices for inpatient coding. Pre-requisite: MIT 2041 or Consent of instructor. Lecture: 1.0 credit (15 contact hours).</td>
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<tr>
<td>MIT 307(1)</td>
<td>Outpatient Coding</td>
<td>Develops medical coding skills for outpatient coding systems. Includes reimbursement methodologies and advanced coding practices for outpatient coding. Pre-requisite: MIT 2042 or Consent of instructor. Lecture: 1.0 credit (15 contact hours).</td>
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</tr>
</tbody>
</table>
MIT 2191(1)  Course ID:017218
Medical Support Information
Designed to prepare medical coding students to take a certifying exam to become a professional outpatient (physician-based) coder as offered by AAPC or PHIA. Includes outpatient coding cases and review of medical terminology, basic anatomy, basic pathophysiology, reimbursement issues, and advanced coding guidelines for CPT, ICD-10-CM, and HCPCS coding systems. Pre-requisite: MIT 204 and MIT 205 or MBS 120. Lecture: 1 credit hour (15 contact hours).
Components: Lecture

MIT 2192(1)  Course ID:017219
Procedural and supply coding & Reimbursement issues
Designed to prepare medical coding students to take a certifying exam to become a professional outpatient (physician-based) coder as offered by AAPC or PHIA. Includes outpatient coding cases and review of medical terminology, basic anatomy, basic pathophysiology, reimbursement issues, and advanced coding guidelines for CPT, ICD-10-CM, and HCPCS coding systems. Pre-requisite: MIT 2191. Lecture: 1 credit hour (15 contact hours).
Components: Lecture

MIT 2241(1)  Course ID:016875
Managing the Medical Office
Emphasizes the healthcare setting, medical office communications, and human resource management. Pre-requisite OR Co-requisite: MIT 230, MIT 217, MIT 104. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

MIT 2242(1)  Course ID:016876
Managing the Medical Record
Focuses on the correct use, care, regulations and rules concerning medical records. Pre-requisite OR Co-requisite: MIT 2241, MIT 230, MIT 217, MIT 104. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

MIT 2243(1)  Course ID:016877
Medical Office Revenue Cycle
Emphasizes accounting and payroll as well as marketing of the medical office. Pre-requisite OR Co-requisite: MIT 2242, MIT 230, MIT 217, MIT 104. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

MIT 2281(1)  Course ID:016403
Intro to E-Health Records
Provides an introduction to electronic health records and gives students a working knowledge of industry-standard electronic medical records software program emphasizing ethical and regulatory issues and methods. Pre-requisite: MIT 227 or consent of instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2282(1)  Course ID:016404
Clinical Office Administration
Provides a working knowledge of computerized medical records software to simulate tasks including to create/ maintain patient records and maintain office scheduling. Pre-requisite: 2281 or consent of instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2283(1)  Course ID:016405
Clinical Tools and Procedures
Provides a working knowledge of computerized medical records software to complete scenario based projects to use templates and create/analyze reports. Emphasizes testing and diagnosis codes. Pre-requisite: 2282 or consent of instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2301(1)  Course ID:016406
Intro to Medical Info Mgmt
Identify rules and regulations of medical filing systems and procedures. Pre-requisite: Digital Literacy. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2302(1)  Course ID:016407
Applied Medical Info Mgmt
Applies rules and regulations of medical filing systems and procedures. Emphasizes management of both hard copy and magnetic media using alphanumeric, numeric, chronologic, and color code filing systems. Pre-requisite: MIT 2301. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2303(1)  Course ID:016409
Records Mgmt/Legal Issues
Master file retention and archiving. Discusses legal and ethical aspects of medical records. Emphasizes responsibility and management of medical filing systems and procedures. Pre-requisite: MIT 2302. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2951(1)  Course ID:016840
Office Skills Development
Introduces a simulated office setting. Acquire knowledge, skills and abilities involved with managing work flow processes and procedures, the work environment. Applies decision making and working autonomously. Pre-requisite: Consent of Program Coordinator. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

MIT 2952(1.5)  Course ID:016841
Simulations/Work-based Learning
Complete a diverse set of learning activities and assigned tasks utilizing medical office simulation software or participate in a work-based learning experience such as internship/apprenticeship. Analyze and evaluate documents for data entry, storage, and data retrieval. Pre-requisite: MIT 2951 or Consent of Program Coordinator. Practicum: 1.5 credits (90 contact hours).
Components: Practicum

MIT 2953(0.5)  Course ID:016842
Program Pathway Assessment
Demonstrate proficiency using medical office simulated software, office system procedures, and the utilization of workplace principles through end of program assessment. Pre-requisite: MIT 2952 or Consent of Program Coordinator. Practicum: 0.5 credits (30 contact hours).
Components: Practicum

MKT 100(3)  Course ID:001173
Introduction to Marketing
This course introduces the essentials of marketing for small and large organizations and develops concepts such as publicity, promotion, and market research, while emphasizing the importance of communication, interpersonal and personal skills. (Keyboarding recommended). Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

MKT 155(3)  Course ID:004989
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).
Components: Lecture Attributes: Technical

MKT 282(3)  Course ID:004915
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. Pre-requisite: BAS 160 or GRT 160 or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

MKT 293(3)  Course ID:004921
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. Pre-requisite: BAS 291/MKT 291. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

MKT 295(3)  Course ID:017675
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. Pre-requisite: BAS 160. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

MLT 101(3)  Course ID:004073
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. Pre-requisite: Admission into the MLT program or permission of the MLT Program Director or MLT Clinical Coordinator. Lecture/Lab: 3.0 credits (75 contact hours)
Components: Laboratory, Lecture Attributes: Technical

MLT 105(3)  Course ID:004989
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).
Components: Lecture Attributes: Technical
**MLT 112(2) Course ID:004177**

**Urinalysis**
Foci 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: Admission into the MLT program or permission of the MLT program director/coordinator. Pre-requisite or Co-requisite: MLT 101 or PHB 170. If taken as a pre-requisite, a minimum grade of "C". Lecture/Lab: 2.0 credits (45 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 115(2) Course ID:004178**

**Seroology**
Introduces basic immunological principles. Includes applications of serological testing for the diagnosis and monitoring of diseases and other antigenic responses. Pre-requisite: Admission into the MLT program or permission of MLT program director/coordinator. Lecture/Lab: 2.0 credits (37.50 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 119(3) Course ID:004179**

**Applied Laboratory**
Prepares the MLT student for clinical rotation into the major areas of the laboratory. Includes practical application in Hematology, Clinical Microbiology, Immunohematology, Urinalysis, Serology, and Clinical Chemistry. Pre-requisite: Admission into the MLT program or permission of the MLT program director/coordinator. Pre-requisite or Co-requisite: MLT 101. If taken as a pre-requisite, a minimum grade of "C". Lecture/Lab: 3.0 credits (105 contact hours)

**Components:** Lecture, Laboratory

**Attributes:** Course Also offered in Modules, Technical

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**MLT 205(3) Course ID:004181**

**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. 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. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

**Components:** Laboratory, Lecture

**Attributes:** Technical

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**MLT 206(2) Course ID:004182**

**Clinical Microbiology II**
Continues with the application of microbiological principles to clinical laboratory practice. Includes mycology, parasitology, virology, and mycobacteriology. Pre-requisite: Admitted into the MLT program; permission of the MLT program director/coordinator. Lecture: 1.0 credit (15 contact hours). Lab: 1.0 credit (30 contact hours).

**Components:** Laboratory, Lecture

**Attributes:** Technical

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**MLT 207(2) Course ID:000282**

**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. Pre-requisite: Admission into the MLT program OR permission of the MLT Program Director/MLT Clinical Coordinator. Lecture/Lab: 2.0 credits (45 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 208(3) Course ID:006399**

**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. Pre-requisite: MLT 207 with a grade of "C" or better OR permission of the MLT Program Director/MLT Clinical Coordinator. Lecture/Lab: 3.0 credits (75 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 209(2) Course ID:006400**

**Clinical Diagnostic Microbiology II**
Exposes the student to a study of anaerobes, forming gram positive bacilli, virology, mycobacterium, mycoplasma, spirochetes, myology 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).

**Components:** Lecture

**Attributes:** Technical

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**MLT 215(4) Course ID:004183**

**Hematology I**
Covers hematopoiesis and classic methodologies of standard hematologic 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. Pre-requisite: MLT 101 with a grade of "C" or greater OR admission into the MLT program OR permission of the MLT Program Director/MLT Clinical Coordinator. Lecture/Lab: 4.0 credits (105 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 216(3) Course ID:004184**

**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. Pre-requisite: MLT 215 with a grade of "C" or greater; permission by MLT program director/coordinator. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Components:** Laboratory, Lecture

**Attributes:** Technical

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**MLT 217(2) Course ID:006401**

**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. Pre-requisite: Admission into the MLT program OR permission of the MLT Program Director/MLT Clinical Coordinator. Lecture/Lab: 3.0 credits (60 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 218(4) Course ID:006402**

**Clinical Hematology**
Continues the study of hematology. Includes hemostasis, anemias, leukemias, lymphomas, miscellaneous abnormal white blood cell disorders, body fluid analysis and other special hematology procedures. Pre-requisite: A grade of C or better in MLT 217 OR permission of the MLT Program Director/MLT Clinical Coordinator. Lecture/Lab: 4.0 credits. (75 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 225(2) Course ID:004185**

**Immunohematology I**
Includes the principles of immunology in relation to blood banking, blood group systems, donor processing and screening, antibody screening, and blood components. Pre-requisite: MLT 101 with a grade of "C" or greater; admission into the MLT program; permission by MLT program director/coordinator. Lecture: 1.0 credit (15 contact hours). Laboratory: 1.0 credit (45 contact hours).

**Components:** Laboratory, Lecture

**Attributes:** Technical

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**MLT 226(2) Course ID:004186**

**Immunohematology II**
Includes antibody screening and panel interpretation, compatibility testing, viral markers and related disease states, hemolytic disease, and HLA markers. Pre-requisite: MLT 225 or Permission by MLT Program Director/Coordinator. Lecture: 2.0 credits (45 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 227(4) Course ID:004570**

**Immunohematology**
Covers principles and practices in blood banking, including topics such as blood group systems, blood components, antibody identification and compatibility testing. Pre-requisite 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. Lecture/Lab: 4 credits (105 contact hours).

**Components:** Lecture

**Attributes:** Technical

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**MLT 233(3) Course ID:004187**

**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. Pre-requisite: (MLT 211 with a grade of "C" or greater and admission into the MLT program) or MLT Program Coordinator/Director. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).

**Components:** Laboratory, Lecture

**Attributes:** Technical

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**MLT 234(2) Course ID:004188**

**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: MLT 101 with a grade of "C" or greater; permission by MLT program director/coordinator. Pre-requisite or Co-requisite: MLT 233. 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).

**Components:** Laboratory, Lecture

**Attributes:** Technical

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**MLT 247(3) Course ID:006403**

**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. Pre-requisite: Admission into MLT program OR permission of the MLT Clinical Coordinator/MLT Program Director. Lecture/Lab: 3.0 credits (60 contact hours).

**Components:** Lecture

**Attributes:** Technical
MLT 248(3)  Course ID:006404  
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, the use of drugs, the kidney, the respiratory system, and blood analysis. Prerequisite: MLT 247 with a grade of "C" or greater. Lecture/Lab: 3.0 credits (60 contact hours).

Components: Lecture  
Attributes: Technical

MLT 275(1)  Course ID:006831  
Clinical Experience  
Familiarizes the student with the clinical laboratory environment as it relates to phlebotomy and front office responsibilities. Includes blood collection procedures, handling and answering internal phone calls, communication with and registration of patients, insurance filing and data entry. Pre-requisite: Admission into the MLT program or permission of the MLT program director or coordinator. Clinical: 1.0 credit (30 contact hours).

Components: Clinical

MLT 278A (4 - 5)  Course ID:004253  
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 academic 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. 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).

Components: Practicum  
Attributes: Course Also Offered in Modules, Technical

MLT 279A (4 - 5)  Course ID:004254  
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 academic 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. 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).

Components: Practicum  
Attributes: Course Also Offered in Modules, Technical

MLT 1191 (1.5)  Course ID:005338  
Applied Laboratory Part 1  
Prepares the MLT student for clinical rotation into the major areas of the laboratory. Includes practical application in Hematology, Clinical Microbiology, and Urinalysis. Pre-requisite: MLT 101 with a grade of "C" or greater and admission into the program. Lecture: 0.5 credit (7.5 contact hours). Laboratory: 1.0 credit (45 contact hours).

Components: Laboratory, Lecture

MLT 1192 (1.5)  Course ID:005339  
Applied Laboratory Part 2  
Prepares the MLT student for clinical rotation into the major areas of the laboratory. Includes practical application in Clinical Microbiology, Immunohematology, Serology, and Clinical Chemistry. Pre-requisite: MLT 1191 with a grade of "C" or greater. Lecture: 0.5 credit (7.5 contact hours). Lab: 1.0 credit (45 contact hours).

Components: Laboratory, Lecture

MLT 2781 (2 - 2.5)  Course ID:005340  
Practicum I Part 1  
Continues the study of clinical chemistry. Provides a study of clinical chemistry, the use of drugs, and blood analysis. Prerequisite: MLT 278A with a grade of "C" or greater. Laboratory: 1.0 credit (30 contact hours).

Components: Practicum

MLT 2782 (2 - 2.5)  Course ID:005341  
Practicum I Part 2  
Continues the study of clinical chemistry. Provides a study of clinical chemistry, the use of drugs, and blood analysis. Prerequisite: MLT 278A with a grade of "C" or greater. Laboratory: 1.0 credit (30 contact hours).

Components: Practicum

MLT 2791 (2 - 2.5)  Course ID:005342  
Practicum II Part 1  
Continues the study of clinical chemistry. Provides a study of clinical chemistry, the use of drugs, and blood analysis. Prerequisite: MLT 278A with a grade of "C" or greater. Laboratory: 1.0 credit (30 contact hours).

Components: Practicum

MLT 2792 (2 - 2.5)  Course ID:005343  
Practicum II Part 2  
Continues the study of clinical chemistry. Provides a study of clinical chemistry, the use of drugs, and blood analysis. Prerequisite: MLT 278A with a grade of "C" or greater. Laboratory: 1.0 credit (30 contact hours).

Components: Practicum

MNA 100(3)  Course ID:001772  
Medicaid Nurse Aide  
Provides knowledge and skills for nurse aides to assume the role and responsibilities 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 1396 and 907 KAR 1:450. Lecture/Lab: 3.0 credits (75 contact hours). (45:1 ratio).

Components: Lecture  
Course Equivalents: NNA 100  
Attributes: Technical

MNG Mining Technology

MNG 102(5)  Course ID:007356  
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).

Components: Lecture  
Attributes: Technical

MNG 123(4)  Course ID:000576  
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, permittivity, underground and surface law, solid-state, and national instruments and applications. Co-requisite: MNG 125. Lecture: 4.0 credits (60 contact hours).

Components: Lecture  
Attributes: Technical

MNG 125(1)  Course ID:005266  
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. Co-requisite: MNG 125. Laboratory: 1.0 credits (30 contact hours).

Components: Lecture  
Attributes: Technical

MNG 150(3)  Course ID:000587  
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).

Components: Lecture  
Attributes: Technical

MNG 160(3)  Course ID:006646  
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).

Components: Lecture  
Attributes: Technical

MNG 170(2)  Course ID:006648  
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).

Components: Lecture  
Attributes: Technical

321
MRN 101(3) Course ID:006706
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).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

MRN 102(3) Course ID:006707
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).
Components: Lecture
Same As Offering: MRN 102
Attributes: Course Also Offered in Modules, Technical

MRN 102(3) Course ID:006707
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).
Components: Lecture
Same As Offering: MRN 102
Attributes: Course Also Offered in Modules, Technical

MRN 104(3) Course ID:007413
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 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

MRN 199(6) Course ID:006708
Marine Co-Op Experience I
Gives students experience in a higher level position in the marine industry. Provides compensated on-the-job work experience under the supervision of a qualified affiliate of the industry. Pre-requisite: 360 hours of river industry experience 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).
Components: Lecture
Attributes: Technical

MRN 200(3) Course ID:006709
Shipboard Deck Operations
Provides specific responsibilities, policies, training, safety and rigging procedures for towboat personnel. Pre-requisite: MRN 100. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

MRN 201(3) Course ID:006710
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).
Components: Lecture
Same As Offering: MRN 201
Attributes: Technical

MRN 201(3) Course ID:006710
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).
Components: Lecture
Same As Offering: MRN 201
Attributes: Technical

MRN 203(3) Course ID:006712
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 agencies which establish industry regulations. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical
MRN 214(4) Course ID:007415
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).
Components: Lecture
Same As Offering: MRN 214
Attributes: Technical

MRN 214(4) Course ID:007415
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).
Components: Lecture
Same As Offering: MRN 214
Attributes: Technical

MRN 299(6) Course ID:006720
Marine Co-Op Experience II
Gives students further experience in a higher level position in the marine industry. Provides supervised on-the-job work experience directly in line with the students’ educational objective. Pre-requisite: MRN 199. Co-requisite: Current employment with the company providing the co-op experience. Co-Op: 6 credits (450 contact hours).
Components: Co-Op
Attributes: Technical

MSE Material Science Engineering
MSE 201(3) Course ID:005596
Introduction to Materials Science
Microscopic and macroscopic structure as related to the properties of materials with engineering applications. Pre-requisite: CHE 105, MA 113. Co-requisite: MA 114. Lecture: 3 credits (45 contact hours).
Components: Lecture
Same As Offering: MSE 201, MSE 201
Attributes: Other, University Course (University of Kentucky)

MSG Massage Therapy
MSG 100(4) Course ID:003986
Musculoskeletal Anatomy & Physiology I
Provides extensive knowledge of the skeletal system and major joint articulations and an introduction to the musculoskeletal system of the human body from beginning terminology through the study of muscle tissue and neuromuscular fundamentals. Pre-requisite Or Co-requisite: (CLA131 or OST103 or AHS115). Co-requisite: MSG 125. Lecture: 4 credits (60 contact hours).
Components: Lecture
Attributes: Technical

MSG 110(4) Course ID:003987
Musculoskeletal Anatomy and Physiology II
Details muscular interactions at major joint articulations including biomechanical concepts and muscles, joints, and innervations of the upper and lower extremities. Pre-requisite: MSG 125. Pre-requisite Or Co-requisite: MSG135. Lecture: 4 credits (60 contact hours).
Components: Lecture
Attributes: Technical

MSG 117(4) Course ID:016866
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. Pre-requisite: AHS 115 or CLA 131 or MIT 103. Lecture/Lab: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

MSG 119(4) Course ID:016867
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. Pre-requisite: MSG 119 Lecture: 4.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

MSG 125(3) Course ID:003990
Massage Techniques I
Introduces theory and technique of Swedish Massage, including the history and benefits of massage, scope of practice, and performance of a one-hour full body Swedish massage. Co-requisite: MSG 100. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

MSG 132(3) Course ID:016868
Massage Techniques I
Introduces theory and technique of Swedish Massage, including the history and benefits of massage, scope of practice, and performance of a one-hour full body Swedish massage. Co-requisite: MSG 117. Lecture: 3.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical

MSG 134(3) Course ID:016869
Massage Techniques II
Extends students’ knowledge of the skeletal system and major joint articulations. Introduces the musculoskeletal system of the human body beginning with basic terminology and advancing through the fundamentals of muscle and neuromuscular tissues. Enhances the students’ skills for delivering an improved one-hour full body therapeutic massage. Pre-requisite: MSG 132. Lecture/Lab: 3.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical

MSG 135(3) Course ID:003991
Massage Techniques II
Provides extensive knowledge of the skeletal system and major joint articulations and an introduction to the musculoskeletal system of the human body from beginning terminology through the study of muscle tissue and neuromuscular fundamentals. Pre-requisite: MSG 100 and MSG 125. Lecture: 1.0 credit (15 contact); Lab: 2.0 credits (60 contact).
Components: Laboratory, Lecture
Attributes: Technical

MSG 205(3) Course ID:005521
Advanced Clinical Massage I
Prepares the student in the knowledge and skills of advanced massage techniques and integrating them in a medical atmosphere. Pre-requisite: MSG110. Lecture: 1.0 credit (15 contact hours). Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

MSG 210(3) Course ID:005526
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. Pre-requisite or Co-requisite: MSG 232. Lecture/Lab: 3.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical

MSG 220(3) Course ID:005522
Massage Therapy Pathology
Prepares students to recognize and know common pathologies that they may encounter as a massage therapist. Covers pathologies directly linked to the biological systems of the body. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

MSG 232(3) Course ID:016870
Advanced Clinical Massage I
Prepares the student to integrate the knowledge and skills of advanced massage techniques into a clinical setting. Pre-requisite: MSG 134. Lecture/Lab: 3.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical

MSG 234(3) Course ID:016873
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. Pre-requisite or Co-requisite: MSG 232. Lecture/Lab: 3.0 credits (105 contact hours).
Components: Lecture
Attributes: Technical

MSG 286(3) Course ID:016874
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. Pre-requisite: MSG 134. Lecture/Lab: 3.0 credits (135 contact hours).
Components: Lecture
Attributes: Technical

MSG 287(1 - 6) Course ID:016249
Massage Therapy Practicum and Special Topics: (Topics)
This course addresses various massage therapy topics, issues, and trends. It also allows students to practice techniques already acquired, and to demonstrate mastery of new ones covered in the topics portion. 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. Pre-requisite: Massage Therapy Certificate. Practicum: 1-6 credits (60-360 contact hours).
Components: Practicum
Attributes: Technical

MST Manufacturing Systems Technology
MST 200(3) Course ID:001778
Advanced Hydraulic Systems
The advanced hydraulic systems class will cover design, repair, and troubleshooting of hydraulic systems. Pre-requisite: FPX 100, FPX 101. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

MST 201(2) Course ID:001779
Advanced Hydraulic Systems Lab
The advanced hydraulic systems lab will cover design, repair, and troubleshooting of hydraulic systems. Pre-requisite: FPX 100, FPX 101. Laboratory: 2 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

MST 204(3) Course ID:001780
Advanced Pneumatic Systems
Design, repair, and troubleshooting of pneumatic systems will be covered in this course. Pre-requisite: FPX 100, FPX 101. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical
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.

Components: Laboratory
Attributes: Technical

MSY 205(3) Course ID:001660
Advanced Masonry
Introduces 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. Pre-requisite: [MSY 105 and MSY 115 with a grade of "C" or higher] or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 215(3) Course ID:001661
Masonry Lab
Provides for practice and application of principles, theories and skills taught in MSY 105, MSY 115, MSY 205. Pre-requisite: [(MSY 105 and MSY 115 and MSY 205) with a grade of "C" or higher] or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 225(3) Course ID:001662
Brick Construction
Covers the application of laying brick to a line, laying a rowlock course, and making weep holes. Emphasizes laying intersecting walls with masonry ties and construction cavity walls and planters. Pre-requisite: MSY 205 with a grade of "C" or higher or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 235(3) Course ID:001663
Special Techniques in Brick Construction
Provides practice in constructing a variety of walls including arches. Pre-requisite: MSY 205 with a grade of "C" or higher or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 245(3) Course ID:001664
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. Pre-requisite: MSY 105 with a grade of "C" or higher or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 252(3) Course ID:001665
Concrete Finishing
Focusses on theory and techniques inherent in the art of concrete finishing. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 257(3) Course ID:001668
Stone
Includes identifying the types of stone and the different types of bonds used in stone masonry. Pre-requisite: MSY 105 with a grade of "C" or higher or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 275(3) Course ID:001669
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. Pre-requisite: MSY 205 with a grade of "C" or higher or Consent of Instructor. Laboratory: 3.0 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

MSY 325(1 - 3) Course ID:001670
Masonry Applications
Provides students with additional opportunity to refine skills. Lab: 1.0 - 3.0 credits (45-135 contact hours).

Components: Laboratory
Attributes: Technical

MSY 329(3) Course ID:001671
Instructor Consent Required
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. Pre-requisite: Consent of Instructor. Practicum: 3.0 credits (90 contact hours).

Components: Practicum
Attributes: Technical

MUC 190(1) Course ID:005593
Instructor Consent Required
Marching Band
Preparation for and performance at university athletic functions, primarily football games. May be repeated to a maximum of four credits. Pre-requisite: Audition and permission of the instructor. Lab: 1 credit (45 contact hours).

Components: Laboratory
Attributes: Other, University Course (University of Kentucky)

MUP 101(1 - 3) Course ID:002242
Instructor Consent Required
Piano
Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Pre-requisite: Satisfactory audition and/or approval of instructor. Laboratory: varies.

Components: Laboratory
Attributes: Other

MUP 102(1 - 3) Course ID:002243
Instructor Consent Required
Voice
Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Pre-requisite: Satisfactory audition and/or approval of instructor. Laboratory: varies.

Components: Laboratory
Attributes: Other

MUP 123(1 - 3) Course ID:002245
Instructor Consent Required
Classical Guitar
Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Pre-requisite: Satisfactory audition and/or approval of instructor. Laboratory: varies.

Components: Laboratory
Attributes: Other

MUP 201(1 - 3) Course ID:002246
Instructor Consent Required
Piano
Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. Pre-requisite: Satisfactory audition and/or approval of instructor. Laboratory: varies.

Components: Laboratory
Attributes: Other

MUP 223(1 - 3) Course ID:003978
Instructor Consent Required
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. Pre-requisite: Satisfactory audition and/or approval of instructor. Laboratory: varies.

Components: Laboratory
Attributes: Other

MUS 100(3) Course ID:000883
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).

Components: Lecture
Attributes: AH - Arts and Humanities, Course Also Offered
in Modules

MUS 104(3) Course ID:004548
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).

Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities

MUS 106(3) Course ID:006188
Music in Film
Presents a survey of the history of film from the silent era to the present. Develops critical viewing, listening, 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).

Components: Lecture
Attributes: AH - Arts and Humanities, University Course (Morehead State University)

MUS 120(3) Course ID:004609
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 loops and sampling based technology, creation of wav files, MP3 files, CD layout, and class projects. Pre-requisite: MUS 174 or Consent of Instructor. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).

Components: Laboratory, Lecture
Attributes: Other

MUS 150(1) Course ID:002231
Class Instruction in Piano I
Introduces the fundamentals of piano playing to beginners. Lab: 1.0 credit (30 contact hours)

Components: Laboratory
Attributes: Other

MUS 151(1) Course ID:002232
Class Instruction in Piano II
Develops the fundamentals of piano playing on a second level, with advanced beginner music and technique. Pre-requisite: MUS150. Lab: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: Other

MUS 152(1) Course ID:002233
Class Instruction in Piano III
Develops the fundamentals of piano playing on an early intermediate level, with an emphasis on expanded repertoire. Pre-requisite: MUS 151. Lab: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: Other

MUS 153(1) Course ID:002234
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. Pre-requisite: MUS152. Lab: 1.0 credit (30 contact hours).

Components: Laboratory
Attributes: Other

MUS 155(1) Course ID:002235
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Lab: 1 credit (15 contact hours).

Components: Laboratory
Attributes: Other

MUS 172(3) Course ID:016799
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).

Components: Lecture
Attributes: Other

MUS 173(3) Course ID:016800
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. Pre-requisite: MUS 172. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Other

MUS 174(3) Course ID:002249
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).

Components: Lecture
Attributes: Other

MUS 175(1) Course ID:006791
Instructor Consent Required
Jazz Ensemble
Introduces the study of jazz through performance and may be repeated to a maximum of four credits. Pre-requisite: Consent of Instructor. Lab: 1.0 credit (45 contact hours).

Components: Laboratory
Attributes: Other

MUS 187(1) Course ID:002239
Instructor Consent Required
Concert Band
Continues instrumental music experience through participation in a large concert band. May be repeated to a maximum of four credits. Pre-requisite: Ability to read music and play a band instrument. Laboratory: 1 credit (15 contact hours).

Components: Laboratory
Attributes: Other

MUS 192(1) Course ID:002237
Instructor Consent Required
University Chorus
Includes choral literature and performance requiring attendance at up to five hours 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. Pre-requisite: Audition and consent of instructor. Lab: 1 credit (15-45 contact hours).

Components: Laboratory
Attributes: Other

MUS 206(3) Course ID:000857
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 and sociological trends and movements. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: AH - Arts and Humanities

MUS 207(3) Course ID:004774
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).

Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities

MUS 208(3) Course ID:004775
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).

Components: Lecture
Attributes: Cultural Studies, AH – Arts and Humanities

MUS 222(3) Course ID:002253
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).

Components: Lecture
Attributes: Other

MUS 260(2) Course ID:000692
Teaching Music in the Elementary Grades I
Develops musicianship, skills, and techniques needed 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).

Components: Lecture
Attributes: Other

MUS 261(2) Course ID:000699
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. Pre-requisite: MUS 260. Lecture/Lab: 2 credits (45 contact hours).

Components: Lecture
Attributes: Other

MUS 299(1 - 3) Course ID:006343
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. Pre-requisite: MUS 100 or consent of the instructor. Lecture: 1-3 credits (15-45 contact hours).

Components: Lecture
Attributes: Other

MVC 299(1 - 8) Course ID:005317
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: Laboratory, Lecture
Attributes: Other
**NAA 102(3) Course ID:006687**  
Basic Health Unit Coordinating  
Provides 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).  
Components: Lecture  
Attributes: Technical

**NAA 115(3) Course ID:004612**  
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. 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).  
Components: Lecture  
Attributes: Technical

**NAA 125(6) Course ID:004613**  
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, 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: 2.0 credits (30 contact hours), Lab: 1.0 credit (45 contact hours).  
Components: Lecture  
Attributes: Technical

**NAA 1021(1) Course ID:016419**  
Health Unit Coordinating  
Provides communication skills and safety duties and responsibilities of the health unit coordinator. Lecture: 1 credit (15 contact hours).  
Components: Lecture

**NAA 1022(1) Course ID:016420**  
Health Unit Management  
Provides health unit coordinator duties and responsibilities regarding confidentiality and legal and ethical issues. Pre-requisite: NAA 1021 Lecture: 1 credit (15 contact hours).  
Components: Lecture

**NFS Nutrition and Food Science**

**NFS 101(3) Course ID:000898**  
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).  
Components: Lecture  
Attributes: Other

**NGT Natural Gas Technology**

**NGT 1001(0.25) Course ID:006446**  
Basic Procedures/Processes  
Presents the major components of a natural gas system from well head to burner. Presents actions that each component has on the gas stream in the context of the total system. Reviews key terms and definitions applied to conditions common to the utilization of natural gas. Lecture: 0.25 credits (3.75 contact hours).  
Components: Lecture

**NGT 1002(0.25) Course ID:006447**  
Basic Properties of Fuel Gases  
Presents advanced procedures for extracting natural gas from the earth and for transporting and regulating natural gas with an emphasis on the physical and chemical properties of natural fuel gases. Lecture: 0.25 credits (3.75 contact hours).  
Components: Lecture

**NGT 1003(0.75) Course ID:006448**  
Adjusting Gas Burners  
Presents the science of gas burner design, factors affecting the proper combustion of fuel gas, and techniques used to measure gas input rates, gas flow, and pressure. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours).  
Components: Laboratory, Lecture

**NGT 1004(0.75) Course ID:006449**  
Regulating Natural Gas  
Presents factors related to measurement of natural gas in a distribution system, pressure regulation, accurate measurement of natural gas, and irregularities in meter installations. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours).  
Components: Laboratory, Lecture

**NGT 1005(0.5) Course ID:006450**  
Gas Distribution Calculations  
Presents methods for calculating area and volume measurements, gas flow rate measurements and heating values, venting and ventilation requirements for proper burning of natural gas, and comparing fuel costs. Lecture: 0.5 credits (7.5 contact hours).  
Components: Lecture

**NGT 1006(0.5) Course ID:006451**  
Records & Compliance Reports  
Focuses on U.S. Department of Transportation reporting requirements, reading maps of natural gas systems, and preparing field sketches. Lecture: 0.5 credits (7.5 contact hours).  
Components: Lecture

**NGT 1101(1.25) Course ID:006452**  
Controlling/Preventing Fires  
Introduces factors related to the fire extinguishing process, ways to prevent gas fires, and ways to extinguish natural gas fires. Lecture: 0.25 credits (3.75 contact hours), Lab: 1.0 credits (30 contact hours).  
Components: Laboratory, Lecture

**NGT 1102(0.75) Course ID:006461**  
Safe Working Environment  
Emphasizes work safety practices, proper use of equipment, hazards of escaping gas, and drug testing and rehabilitation programs. Lecture: 0.25 credits (3.75 contact hours), Laboratory: 0.25 credits (15 contact hours).  
Components: Laboratory, Lecture

**NGT 1103(0.5) Course ID:006462**  
Preventing Accidental Ignition  
Identifies conditions, causes, and hazards related to gas leakage; emphasizes safety practices and procedures to prevent accidental ignition of natural gas. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).  
Components: Laboratory, Lecture

**NGT 1104(0.5 - 500) Course ID:006463**  
Traffic Control Guidelines  
Present the basic standard for traffic control as described in the annual on Uniform Traffic Control Devices, Part VI According to the U.S. Department of Transportation. Lecture/Laboratory: varies.  
Components: Laboratory, Lecture

**NGT 1401(0.5) Course ID:006465**  
Excavating  
Presents the science of gas burner design, factors affecting the proper combustion of fuel gas, and techniques used to measure gas input rates, gas flow, and pressure. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).  
Components: Laboratory, Lecture

**NGT 1402(1.25) Course ID:006466**  
Operating Equipment Safely  
Presents specialized techniques of grader/loader/backhoe operation while emphasizing safety precautions, maintenance and inspection, and proper control. Lecture: 0.5 credits (3.75 contact hours), Lab: 1 credit hour (30 contact hours).  
Components: Laboratory, Lecture

**NGT 1403(0.75) Course ID:006467**  
Safety in Confined Spaces  
Introduces confined spaces with emphasis on identifying hazards, monitoring of the atmosphere, entry procedures, and controlling hazardous energy. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.5 credits (15 contact hours).  
Components: Laboratory, Lecture

**NGT 1404(0.5) Course ID:006468**  
Communicating Potential Hazard  
Presents advanced procedures for extracting natural gas from the earth and for transporting and regulating natural gas with an emphasis on the physical and chemical properties of natural fuel gases. Lecture: 0.25 credits (3.75 contact hours).  
Components: Laboratory, Lecture

**NGT 1501(0.5) Course ID:006453**  
Gas-in-Air Mixture  
Presents the science of gas burner design, factors affecting the proper combustion of fuel gas, and techniques used to measure gas input rates, gas flow, and pressure. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).  
Components: Laboratory, Lecture

**NGT 1502(0.5) Course ID:006454**  
Gas Leaks/Odors  
Presents basic facts about natural gas and natural gas leaks with emphasis on responding to gas leak and odor calls. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).  
Components: Laboratory, Lecture

**NGT 1503(0.5) Course ID:006455**  
Underground Facilities  
Presents specialized techniques of grader/loader/backhoe operation while emphasizing safety precautions, maintenance and inspection, and proper control. Lecture: 0.5 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).  
Components: Laboratory, Lecture
<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGT 1504(0.5)</td>
<td>Underground Leaks</td>
<td>Presents the theory and practice for investigating and pinpointing underground natural gas leaks. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1505(0.75)</td>
<td>Patrol/ Leakage Surveys</td>
<td>Presents factors basic to patrol of pipeline facilities to include the practice of patrol and leakage surveys. Lecture: 0.5 credits (7.5 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1506(0.25)</td>
<td>Detecting Carbon Monoxide</td>
<td>Presents the characteristics of carbon monoxide and the guidelines for investigation of carbon monoxide. Lecture: 0.25 credits (3.75 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>NGT 1601(0.75)</td>
<td>Establishing a Gas Service</td>
<td>Presents the theory used when establishing a gas service with emphasis piping from the main to customer’s piping, piping inside buildings, and gas-operated equipment in service. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1602(0.75)</td>
<td>Odorant Levels</td>
<td>Presents federal and Kentucky standards for proper odorant levels with emphasis on monitoring odorant levels. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1603(0.75)</td>
<td>Installing Domestic Service</td>
<td>Presents US Department of Transportation and industry-recognized procedures for installing domestic gas service. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1604(0.75)</td>
<td>Purging Techniques</td>
<td>Presents the theory and techniques common to purging natural gas lines, including safe practices and isolation of equipment during purging. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1701(0.5)</td>
<td>Gas-Operated Appliances</td>
<td>Presents procedures for checking natural gas appliance systems to ensure proper installation and safe operation. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1702(0.5)</td>
<td>Servicing Gas Equipment</td>
<td>Presents factors related to the ventilation process, standards to ensure proper combustion and ventilation for gas-operated equipments, and ventilation inspection of gas-operated equipment. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1703(0.75)</td>
<td>Venting Gas Equipment</td>
<td>Presents venting requirements for Categories I-IV gas-operated appliances; identifies features and benefits of high efficiency equipment with practice in sizing of vents and inspecting venting systems. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1704(1.25)</td>
<td>Electrical Concepts</td>
<td>Presents the basis for troubleshooting electrical control circuits in gas-operated appliances with emphasis on reading electrical circuit diagrams and their physical arrangement in the appliance. Lecture: 0.25 credits (3.75 contact hours), Lab: 1 credit (30 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1801(0.5)</td>
<td>Installing Mains &amp; Lines</td>
<td>Presents practices basic to installing gas mains and service lines with emphasis on safety, standards, and line-marking. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1802(0.5)</td>
<td>Pipeline Installation</td>
<td>Examines the preparation of the pipeline right-of-way and the completion of the construction operation; presents the major phases of the inspection process. Lecture: 0.5 credits (7.5 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>NGT 1803(0.5)</td>
<td>Joining Plastic Pipe</td>
<td>Presents the material specifications and installation practices for polyethylene pipe, joining plastic pipe with mechanical fittings, and identification of methods to control static electricity. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1804(0.75)</td>
<td>Plastic Pipe &amp; Heat Fusion</td>
<td>Presents the theory of heat fusion polyethylene pipe and the specification and conditions required to produce an acceptable joint. Lecture: 0.5 credits (7.5 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1805(0.5)</td>
<td>Permanent Field Repairs</td>
<td>Presents common methods and installation practices used to make field repairs on gas piping facilities and natural gas pipelines. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1806(0.25)</td>
<td>Joining Copper Pipe</td>
<td>Presents materials and techniques for joining copper pipe/tubing. Lecture: 0.25 credits (3.75 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>NGT 1901(0.5)</td>
<td>Maintaining Line Valves</td>
<td>Presents basic design characteristics and maintenance procedures for pipeline valves. Lecture: 0.5 credits (7.5 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>NGT 1902(0.25)</td>
<td>Pressure Relief Valves</td>
<td>Presents components and operating characteristics of typical pressure relief valve installations; emphasizes spring-operated and pilot-operated pressure relief valves; focuses on factors to consider when installing pressure relief valves. Lecture: 0.5 credits (7.5 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>NGT 1903(0.5)</td>
<td>Abandon/Deactivate Facilities</td>
<td>Presents processes and procedures for deactivating/abandoning gas facilities. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1904(0.75)</td>
<td>Cast Iron Pipe</td>
<td>Presents materials and procedures for repairing cast iron pipe; emphasizes protection of cast iron pipe while excavating. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 1905(1)</td>
<td>Inspecting Pipe Welds</td>
<td>Presents duties and responsibilities basic to the practice of inspecting pipe welds; emphasizes the identification and evaluation of weld defects. Lecture: 0.5 credits (7.5 contact hours), Lab: 0.5 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2001(0.75)</td>
<td>Tapping/Stopping Pipelines</td>
<td>Presents techniques used to safely tap and stop pipelines under pressure. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2002(0.75)</td>
<td>Pipeline Pigging</td>
<td>Presents techniques basic to pigging pipelines. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2003(0.75)</td>
<td>Purging Techniques</td>
<td>Presents factors affecting the mechanical nature of displacing one gas with another gas by purging. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2004(0.75)</td>
<td>Tie-In/Bypass Operations</td>
<td>Presents procedures for performing tie-in/bypass operations. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2051(0.5)</td>
<td>Corrosion Control</td>
<td>Presents the characteristics of corrosion, conditions causing corrosion in buried metal piping, and processes and procedures basic to corrosion control. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2052(0.5)</td>
<td>Installing Cathodic Systems</td>
<td>Presents procedures for installing cathodic protection systems. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2053(0.5)</td>
<td>Testing Corrosion Systems</td>
<td>Presents methods for monitoring and testing corrosion control systems. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2054(0.5)</td>
<td>Monitoring Corrosion Control</td>
<td>Presents information and techniques for monitoring corrosion control methods on buried metal pipelines. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours). Components: Laboratory, Lecture</td>
</tr>
<tr>
<td>NGT 2101(1)</td>
<td>Principles of Electricity</td>
<td>Presents the basics of both D.C. and A.C. electrical theory with an emphasis on current flow designs. Lecture: 1 credit (15 contact hours). Components: Lecture</td>
</tr>
<tr>
<td>NGT 2102(1)</td>
<td>Rectifier Components</td>
<td>Presents the theory and practice of identifying and testing typical rectifier components with emphasis on the identification of rectifying circuits, rectifier selection methods, and specialized types of rectifiers. Lecture: 0.50 credits (7.5 contact hours), Lab: 0.50 credits (15 contact hours). Components: Laboratory, Lecture</td>
</tr>
</tbody>
</table>
NGT 2103(0.5) Course ID:006498
Rectifiers
Presents information and techniques for putting cathodic protection rectifiers into service. Lecture: 0.5 credits (7.5 contact hours) Lab: 0.5 credits (15 contact hours).
Components: Laboratory, Lecture

NGT 2201(0.5) Course ID:006499
Gas Measurement
Presents concepts and principles basic to gas measurement; demonstrates the effects of gas pressure and temperature on gas measurement using mathematical calculations; reviews the operating principles of diaphragm, rotary and turbine meters used to measure gas. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture

NGT 2202(1) Course ID:006500
Maintaining Line Valves
Presents the basic operating principles and maintenance schedules of flow control valves; demonstrates proper use and care of high-pressure grease guns. Lecture: 0.5 credits (7.5 contact hours), Lab: 0.50 credits (15 contact hours).
Components: Laboratory, Lecture

NGT 2203(0.5) Course ID:006501
Pilot Loaded Regulators
Presents concepts and principles basic to the operation and selection of pressure regulators and the control of gas pressure. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2204(0.5) Course ID:006502
Proper Odorant Levels
Presents the industry standards and devices used to introduce odors into a natural gas system; emphasizes testing for odorant levels and the proper handling of odorants. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.26 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2205(0.5) Course ID:006503
Dew Point of a Gas
Covers theory and practice used to test the dew point of a gas; explains methods used to test moisture in gas. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.26 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2301(0.5) Course ID:006504
Orifice Meters
Presents operating principles of orifice meters; emphasizes the identification of the meter components and their functions in the measurement process. Lecture: 0.25 credits (7.5 contact hours).
Components: Lecture

NGT 2302(0.5) Course ID:006505
Turbine Meters
Presents operating principles of turbine type meters; emphasizes the identification of the meter components and their functions in the measurement process. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture

NGT 2303(0.5) Course ID:006506
Diaphragm Meters
Presents operating principles of diaphragm-type meters; emphasizes the identification of the meter components and their functions in the measurement process. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2304(0.5) Course ID:006507
Rotary Meters
Presents operating principles of rotary meters; emphasizes the identification of the meter components and their functions in the measurement process. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2305(0.5) Course ID:006508
Pressure Relief Valves
Presents purpose and operating characteristics of pressure relief valves; emphasizes inspecting, testing and maintenance of relief valves. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2306(0.5) Course ID:006509
Recording Charts
Presents basic technology used to transfer information to a recording chart; emphasizes how to change, interpret, and send charts. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2401(0.5) Course ID:006510
Self-Operating Regulators
Presents information and procedures basic to performing maintenance operations on self-operating pressure regulators. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2402(0.5) Course ID:006511
Pilot Loaded Regulators
Presents concepts and principles basic to the operation and selection of pressure regulators and the control of gas pressure. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2403(0.5) Course ID:006512
Test Pressure Limits
Presents the concepts and principles basic to test relief valves and pressure limiting and regulating stations. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NGT 2404(0.5) Course ID:006513
Differential Pressure Recorder
Presents information and procedures for maintaining and calibrating differential pressure recorders. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture

NGT 2405(0.5) Course ID:006514
Mercury Instruments
Presents the fundamental operating and maintenance procedures for Mercury instruments, gauges and indexes. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture

NGT 2406(0.5) Course ID:006515
Multiple Range Pressure Chart
Presents concepts and principles basic to reading multiple range pressure recording charts. Lecture: 0.25 credits (3.75 contact hours), Lab: 0.25 credits (7.5 contact hours).
Components: Laboratory, Lecture

NIP 116(10) Course ID:017117
Nursing Integrated Program
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: content 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, ethics, 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. Pre-requisite: Admission to the Integrated Nursing Program and proof of active status on the Kentucky Nurse Aid Registry. Completion, with "C" or better, BIO 137, PSY 110, ENGL101, Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course.
Components: Clinical, Laboratory, Lecture
Attributes: Digital Literacy, Technical

NIP 129(11) Course ID:016950
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/hepato-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 patients by incorporating the core values of caring, diversity, excellence, ethics, holism, and patient-centeredness. Examines the patient’s needs, health promotion, various treatment modalities, and nursing interventions, through clinical experience and theory application. Pre-requisite: Completion with a grade of "C" or better in NIP 103, NIP 116, BIO 139; Student must have Basic life support certification, current liability insurance coverage and current immunizations for the duration of the course.
Pre-requisite or Co-requisite: AHS 100. Lecture: 7 credit hours (105 contact hours). Laboratory: 3 credit hours (135 contact hours).
Components: Laboratory, Lecture
Attributes: Digital Literacy, Technical

NIP 189(1) Course ID:006838
Technical Attributes: Digital Literacy, Course Also Offered in Modules, Technical
Nursing Care Across the Lifespan
Focuses on care of patients across the lifespan with stressors to normal lines of defense in hematology, immune, integumentary, fluid and electrolyte/acid-base imbalance, respiratory, musculoskeletal, cardiovascular, gastrointestinal/hepato-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 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 patients by incorporating the core values of caring, diversity, excellence, ethics, holism, and patient-centeredness. Examines the patient’s needs, health promotion, various treatment modalities, and nursing interventions, through clinical experience and theory application. Pre-requisite: Completion with a grade of "C" or better in NIP 103, NIP 116; Student must have Basic life support certification, current liability insurance coverage and current immunizations for the duration of the course.
Pre-requisite or Co-requisite: AHS 100. Lecture: 7.5 credits (112.5 contact hours). Laboratory: 3.5 credits (51.25 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical
NIP 140(6) Course ID:005435
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. Pre-requisite: Completion with a grade of “C” or better in NIP 126. 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). Clinical: 4.0 credits (180 contact hours).
Components: Clinical, Lecture
Attributes: Digital Literacy, Course Also Offered in Modules, Technical

NIP 212(10) Course ID:016117
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 complex health care needs and disorders of self-defense/protection: skin, hair and nails, cancer, immune system, hematomal system, cardiovascular system, respiratory system, endocrine system, gastrointestinal system, reproductive system, renal system, nervous system, and musculoskeletal system across the lifespan. 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 License. Students must have Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course. Pre-requisite or Co-requisite: Quantitative Reasoning to meet the AA or AS requirement. Lecture: 7 credits (105 contact hours), Clinical: 3 credits (135 contact hours).
Components: Clinical, Lecture
Attributes: Digital Literacy, Technical

NIP 216(9) Course ID:017604
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 of theory and practical 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. Pre-requisite: Completion with a grade C or better in NIP 212 and Quantitative Reasoning (must meet AA or AS requirements). Students must have Basic Life Support certification, current liability insurance coverage and current immunizations for the duration of the course. Pre-requisite or Co-requisite: Heritage/Humanities. Lecture: 5 credits (75 contact hours), Lab/Clinical: 4 credits (180 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Digital Literacy, Technical

NPN 100(2) Course ID:004021
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. 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. 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-requisite or Co-requisite: [BIO 135 or BIO 139]. Lecture: 2.0 credits (30 contact hours).
Components: Lecture
Attributes: Technical

NPN 101(6) Course ID:005727
Nursing Fundamentals
Provides a historical overview of health care system and roles and responsibilities of members of the health care team. Emphasizes practical nursing and the nursing process in the context of Gordon’s Functional Health Patterns and Maslow’s hierarchy of needs as related to clients throughout the life span. Covers fundamental nursing skills including therapeutic communication techniques; nursing assessment; nursing process and care planning; charting; legal and ethical parameters of health care; rest and sleep; body mechanics and introduction content on the surgical experience. Pre-requisite: Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout enrollment in the program AND [NNA 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-requisite or Co-requisite: [BIO 135 or BIO 139]. Lecture: 2.0 credits (30 contact hours).
Components: Laboratory, Lecture
Attributes: Digital Literacy, Course Also Offered in Modules, Technical

NPN 105(6) Course ID:004022
Development of Care Giver Role
Introduces nursing and the nursing process as related to client activities of daily living across the life span. Provides an opportunity to develop and practice psychomotor skills related to health assessment, promotion, maintenance, and illness prevention. 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-requisite or Co-requisite: [BIO 135 or BIO 139]. Lecture: 1.0 credit (15 contact hours). Lab/Clinical: 1.0 credit (45:1 ratio/45 contact hours).
Components: Laboratory, Lecture
Attributes: Technical
NPN 111(3) Course ID:005728 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. Pre-requisite: Admission to Practical Nursing program AND CPR for Health Care Providers certification to be maintained throughout 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-requisite 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. Lab: 1.0 credit (15 contact hours). Lab/Clinical: 2.0 credits (90 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

NPN 125(3) Course ID:004025 Mental Health
Applies nursing process to clients experiencing common mental health problems with emphasis on assisting clients to cope with psychological problems throughout the life span i.e., chemical dependency, violence and other stress and developmental problems related to mental health. Pre-requisite: Pathway 1: (NPN 100 and NPN 105 and NPN 110) and (BIO 135 or BIO 139) or Consent of PN Coordinator. Minimum "C" grade. Pre-requisite Or Co-requisite: Pathway 2: (NPN 101 and NPN 111 and (BIO 135 or BIO 139) and (AHS 120 or AHS 115 or OST 103 or CLA 131). If prerequisite, a grade of "C" or greater must be achieved.) Pathway 3: (NPN 106 and NPN 108 and BIO 139) if prerequisite, a grade of "C" or greater must be achieved; Lecture: 2.0 credits (30 contact hours). Lab/ Clinical: 1.0 credit (45 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

NPN 130(3) Course ID:004026 Pharmacology II
Identify common drugs by classification and effects with emphasis on responsibility, accountability, and application of the nursing process to drug therapy. Pre-requisite: ((NPN 100 and NPN 105 and NPN 110 and (BIO 135 or BIO 139) or Consent of PN Coordinator). Minimum "C" grade. Lab/Clinical: 1.0 credit (45 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Technical

NPN 135(6) Course ID:004027 Introduction to Health Deviation
Applies the nursing process to selected child/adult clients experiencing common health deviations interfering with activities of daily living; emphasis is on the nurse as the provider of care. Pre-requisite: Pathway 1: (NPN 100 and NPN 105 and NPN 110 and (BIO 135 or BIO 139) or Consent of PN Coordinator). Minimum "C" grade. Pathway 2: (NPN 101 and NPN 111) or NPN 115 and (BIO 135 or BIO 139) and (AHS 115 or AHS 120 or CLA 131 or OST 103). Minimum "C" grade. Lecture: 3.0 credits (45 contact hours); Lab/Clinical: 3.0 credit (45.1 ratio/135 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

NPN 140(3) Course ID:005629 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. Pre-requisite: ((NPN 106 and NPN 108 and BIO 139). Minimum "C" grade). Pre-requisite 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).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules

NPN 200(5) Course ID:004028 Med Surg I
Applies nursing process to selected child/adult clients experiencing common health deviations interfering with activities of daily living with emphasis on the nurse as the provider of care. Pre-requisite: (NPN 125 and NPN 130 and NPN 135 and NPN 201) or Consent of PN Coordinator. Minimum C grade. Lecture: 3 credits (45 contact hours). Lab/Clinical: 2 credits (90 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Technical

NPN 201(3) Course ID:004024 Child Bearing Family
Applies nursing process to childbearing families with focus on health promotion and common health alterations in the reproductive process. Pre-requisite: Pathway 1-(NPN 100 and NPN 105 and NPN 110) and (BIO 135 or BIO 139) and Consent of PN Coordinator. Minimum "C" grade. Pre-requisite Or Co-requisite: Pathway 2-NPN 202 and Medical Terminology. If prerequisite, a grade of "C" or greater must be achieved. Lecture: 2.0 credits (30 contact hours). Lab: 1.0 credit (45 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

NPN 202(6) Course ID:005729 Med-Surg I Alterations
Applies nursing process to selected child/adult clients experiencing common complex health deviations related to metabolic dysfunctions, fluid and electrolyte imbalances, cardiovascular dysfunctions, and cellular deviations that interfere with activities of daily living on emphasis on the nurse as the provider of care. Pre-requisite: (NPN 101 and NPN 111) and BI0 135 or BIO 139 and (AHS 115 or AHS 120 or CLA 131 or MTP 103) Minimum "C" grade. Pre-requisite or Co-requisite: NPN 135. If prerequisite, a grade of "C" or greater must be achieved. Lecture: 4 credits (60 contact hours). Lab/Clinical: 2.0 credits (90 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

NPN 205(5) Course ID:004029 Med Surg II
Applies the nursing process to child/adult clients experiencing more complex health alterations; the focus is on multi-system failure, fluid and electrolytes, neurological problems, and cellular deviation. Pre-requisite: NPN 201. All courses must be achieved with a grade of "C" or higher. Lecture: 3.0 credits (45 contact hours); Lab/Clinical: 2.0 credits (90 contact hours/45:1 ratio).

Components: Clinical, Laboratory, Lecture Attributes: Technical

NPN 206(6) Course ID:005730 Med-Surg II Alterations
Applies nursing process to selected child/adult clients experiencing complex health issues related to multi-system failure, neurological disorders, coordination dysfunctions, and elimination problems that interfere with activities of daily living on emphasis on the nurse as the provider of care. Pre-requisite: (NPN 202 with a grade of "C" or greater) or Consent of PN Coordinator. Pre-requisite or Co-requisite: NPN 201. If prerequisite, a grade of "C" or greater must be achieved. Lecture: 4.0 credits (60 contact hours). Lab/Clinical: 2.0 credits (90 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

NPN 208(10) Course ID:005630 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. Pre-requisite: BIO 137, BIO 139, NPN 106, NPN 108, and NPN 125 with a grade of "C" or greater. Pre-requisite or Co-requisite: NPN 140 and NPN 201 with a grade of "C" or better. Lecture: 6 credits (90 contact hours). Laboratory: 4 credits (180 contact hours).

Components: Clinical, Laboratory, Lecture Attributes: Course Also Offered in Modules

NPN 210(4) Course ID:004030 Clinical Practicum
Integrates the theoretical concepts learned throughout the program in application of this knowledge during the direct care of clients. Promotes critical thinking and problem solving skills during the nursing role performances of provider of care, manager of care, and member within the discipline. Pre-requisite: Pathway 1: NPN 205. Minimum "C" grade. Pathway 3: NPN 208. Minimum "C" grade. Pre-requisite or Co-requisite: Pathway 2: NPN 206. If prerequisite, a grade of "C" or greater must be achieved. Lecture: 1.0 credit (15 contact hours); Practicum: 3.0 credits (45:1 ratio/135 contact hours).

Components: Lecture, Practicum Attributes: Digital Literacy, Course Also Offered in Modules, Technical

NPN 215(1) Course ID:004125 Nursing Trends & Issues

Components: Clinical, Lecture Attributes: Digital Literacy, Course Also Offered in Modules, NRS Nursing

NRS 101(9) Course ID:004332 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. 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-requisite or Co-requisite: BIO 139 with a grade of "C" 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-requisite or Co-requisite: BIO 139 with a grade of "C" or better. Lecture: 4 credits (60 contact hours). Lab/Clinical: 2 credits (90 contact hours).

Components: Clinical, Lecture Attributes: Technical
NRS 102(10) Course ID:004333
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: NRS 101 with letter grade of "C" or better. Pre-requisite Or Co-requisite: ENG 101, Lecture: 5 credit hours (75 contact hours). Clinical: 5 credit hours (225 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NRS 200(3) Course ID:004334
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). Orient the student to the philosophy and organizing framework of the ADN Program and assist 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. 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. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: Technical

NRS 203(9) Course ID:004335
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: NRS 102 with a grade of "C" or better. Pre-requisite Or Co-requisite: BIO 225 with a grade of "C" or better. Lecture: 5 credit hours (75 contact hours). Clinical: 4 credit hours (180 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NRS 204(10) Course ID:004336
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: NRS 203 and BIO 225 with a grade of "C" or better. Pre-requisite Or Co-requisite: Heritage/Humanities Course. Lecture: 6 credit hours (90 contact hours) Clinical: 4 credit hours (180 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NSG 100(3) Course ID:005269
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).
Components: Lecture
Attributes: Technical

NSG 101(9) Course ID:000568
Nursing Practice
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). Pre-requisite: Admission to the Associate Degree Nursing Program, (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. Pre-requisite or Co-requisite: BIO 139 with a grade of "C" or better. Lecture: 5 credits (75 contact hours). Clinical: 4 credits (190 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

NSG 106(9) Course ID:006179
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 chronic health pattern dysfunctions, introduces the four competencies of nursing practice including human flourishing, nursing judgment, professional identity, and spirit of inquiry. Pre-requisite: Admission to the Associate Degree Nursing Program, BIO 137 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 Co-requisite: BIO 139 with a grade of "C" or better (within 10 years) and ENG 101. Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NSG 195(4) Course ID:017319
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. 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. Lecture: 3.5 credits (52.5 contact hours). Clinical: 0.5 credit (22.5 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NSG 196(5) Course ID:006180
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. 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-requisite or Co-requisite: HST 121. Lecture: 4 credits (60 contact hours). Clinical: 1 credit (45 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Course Also Offered in Modules, Technical

NSG 199(2) Course ID:005905
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. 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. Lecture: 1.5 credits (22.5 contact hours). Clinical: 0.5 credit (22.5 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

NSG 206(9) Course ID:006181
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. Pre-requisite: NSG 106 with a grade of "C" or better. Pre-requisite or Co-requisite: HST 121. Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

NSG 211(3) Course ID:005908
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: (NSG 219 and NSG 212) with a grade of "C" or higher, and ENG 101. Pre-requisite or Co-requisite: NSG 229 and BIO 225 with a grade of "C" or higher. Lecture: 2 credits (30 contact hours). Clinical: 1 credit (45 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

ENG 101
Pre-requisite or Co-requisite: NSG 229 and BIO 225 with a grade of "C" or higher. Lecture: 2 credits (30 contact hours). Clinical: 1 credit (45 contact hours).
NSG 212(3) Course ID:005909
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). Pre-requisite: NSG 101 and BIO 139 with a grade of "C" or higher. Pre-requisite or Co-requisite: NSG 219 with a grade of "C" or higher, and ENG 101. Lecture: 2 credits (30 contact hours), Clinical: 1 credit (45 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

NSG 213(3) Course ID:005910
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). Pre-requisite or Co-requisite: NSG 219 with a grade of "C" or higher. Pre-requisite or Co-requisite: NSG 229(7) Course ID:017321
Components: Clinical, Laboratory, Lecture
Attributes: Technical

NSG 219(7) Course ID:017320
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. Pre-requisite: NSG 101 and BIO 139 with a grade of "C" or better. Pre-requisite or Co-requisite: NSG 212 with a grade of "C" or better and ENG 101. Lecture: 4 credits (60 contact hours), Clinical: 3 credits (135 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NSG 225(1) Course ID:005913
Pharmacology II
Focuses on common drugs, their classification and effects on functional and dysfunctional health patterns (activity, exercise, coping/stress/tolerance, role/relationship, altered self-perception/self-concept, and cognitive perceptual). Emphasizes nursing responsibility, accountability and application of the nursing process regarding drug therapy. (Unsuccessful completion of NSG 225 will require mandatory withdrawal from NSG 230; 201 KAR 20:320). Pre-requisite: NSG 220 and NSG 211 and BIO 225 with a grade of "C" or better. Pre-requisite or Co-requisite: NSG 230 with a grade of "C" or better and Consent of Instructor. Pre-requisite or Co-requisite: NSG 213 and Heritage/Humanities. Lecture: 1.0 credit (15 contact hours).
Components: Lecture
Attributes: Technical

NSG 229(7) Course ID:017321
Medical Surgical Nursing II
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 oxygenation, circulation, perfusion, and activity/exercise. Pre-requisite: NSG 219 and NSG 212 with a grade of "C" or higher and ENG 101. Pre-requisite or Co-requisite: NSG 219 and BIO 225 with a grade of "C" or higher. Lecture: 4 credits (60 contact hours), Clinical: 3 credits (135 contact hours).
Components: Clinical, Lecture
Attributes: Technical

NSG 236(9) Course ID:006184
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: NSG 206 OR NSG 196 with a grade of "C" or better. Pre-requisite or Co-requisite: BIO 225 (within 10 years) with a grade of "C" or better. Lecture: 5 credits (75 contact hours). Clinical: 4 credits (180 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Also Offered in Modules, Technical

NSG 239(6) Course ID:005914
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). Pre-requisite: NSG 229 and NSG 211 and BIO 225 with a grade of "C" or better. Pre-requisite or Co-requisite: NSG 213 with a grade of "C" or better and Heritage/Humanities. Lecture: 3 credits (45 contact hours). Clinical: 3 credits (135 contact hours).
Components: Clinical, Laboratory, Lecture
Attributes: Technical

NSG 246(9) Course ID:006185
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. Pre-requisite: NSG 236 with a grade of "C" or better. Pre-requisite or Co-requisite: NSG 213 and Heritage/Humanities/Foreign Language. Lecture: 5.0 credits (75 contact hours), Laboratory/Clinical: 4.0 credits (180 contact hours, 45:1 ratio).
Components: Clinical, Laboratory, Lecture
Attributes: Also Offered in Modules, Technical

NSG 298(1 - 4) Course ID:000531
Instructor Consent Required
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. 
Components: Lecture
Attributes: Consent of Instructor.

NSP ORP Orthotics and Prosthetics Tech
NSP 100(2) Course ID:017590
Introduction to Orthotics and Prosthetics
Introduces students to the professions 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: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical

ORP 101(3) Course ID:017591
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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Technician program. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 102(3) Course ID:017592
Spinal Orthotics
Provides students with the knowledge and skills necessary to fabricate plastic and metal ankle-foot orthoses. Introduces topics such as spinal skeletal structure, biomechanical principles of spinal orthoses, interpretation and application of spinal orthotomy, variations of spinal orthoses and fitting of off-the-shelf spinal orthoses for the filter level practitioner. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Technician program. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 103(4) Course ID:017593
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 orthotics. Interprets and applies ankle-foot orthotomy, reviews variation of ankle-foot orthoses and examines fitting of off-the shelf lower limb orthoses. Pre-requisite: ORP 100, ORP 101, and admission to the Orthotics and Prosthetics Program. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 104(3) Course ID:017594
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 orthotomy, reviews variations of knee-ankle-foot orthoses and examines fitting of off-the-shelf knee orthoses. Pre-requisite: ORP 100, ORP 103, and admission to the Orthotics and Prosthetics Program. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 105(3) Course ID:017595
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 orthotomy, reviews variation of upper extremity orthoses and fracture orthoses, and examines fitting of off-the-shelf upper extremity orthoses. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory
Attributes: Technical
ORP 106(3) Course ID:017596
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 thermostoped, 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 orthotic and prosthetic fabrication. Reviews laboratory safety and material safety. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 107(2) Course ID:017597
Orthotic Prosthetic Biomaterials
Provides the necessary knowledge of materials utilized in prosthesis 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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 108(2) Course ID:017598
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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 1 credit (15 contact hours). Laboratory: 1 credit (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 195(4) Course ID:017599
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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Clinical: 4 credits (120 contact hours).
Components: Clinical
Attributes: Technical

ORP 200(4) Course ID:017600
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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 201(4) Course ID:017601
Transradial Prosthetics
Provides students with the knowledge and skills necessary to fabricate transradial prostheses. Introduces impression procedures, interface materials, foot and ankle mechanisms, alignment and transradial design variations. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 202(4) Course ID:017602
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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 2 credits (30 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 203(3) Course ID:017603
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. Pre-requisite: ORP 100 and admission to the Orthotics and Prosthetics Program. Lecture: 1 credit (15 contact hours). Laboratory: 2 credits (60 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

ORP 295(4) Course ID:017605
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. Pre-requisite: ORP 100, ORP 195, and in good standing in the Orthotics and Prosthetics Program. Clinical: 4 credits (120 contact hours).
Components: Clinical
Attributes: Technical

OST Office Systems Technology

OST 100(1) Course ID:003768
Keyboarding
Develops skill operating a keyboard by touch. Lab: 1.0 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

OST 101(3) Course ID:004926
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).
Components: Lecture
Attributes: Technical

OST 105(3) Course ID:003769
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. Pre-requisite: RDG 020 or consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 108(3) Course ID:004521
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).
Components: Lecture
Attributes: Technical

OST 109(3) Course ID:004520
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).
Components: Lecture
Attributes: Technical

OST 110(3) Course ID:003770
Instructor Consent Required
Word Processing Applications
Provides experience in word processing including the mastery of touch typing with speed and accuracy using industry standard software. Pre-requisite: RDG 020 and Consent of Instructor (OST 101 equivalent skills). Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

OST 112(3) Course ID:004428
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: Lecture

OST 150(3) Course ID:003771
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; Laboratory: 0. Pre-requisite: ENG 101 or Permission of Instructor and OST 110
Components: Lecture
Attributes: Technical

OST 169(3) Course ID:003772
Records and Database Management
Prepresents aspects of the management of records from creation to disposal, using database software to create and edit files and prepare reports. Pre-requisite: OST 105. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 210(3) Course ID:003773
Advanced Word Processing Applications
Uses advanced features of a current word processing software to format and produce documents utilized in an office. Pre-requisite: OST 110. Lecture: 3.0 credit hours. (45 contact hours).
Components: Lecture
Attributes: Technical

OST 215(3) Course ID:003774
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 Co-requisite: OST 110. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical
OST 220(3) Course ID: 003775
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. Pre-requisite: OST 210, OST 215, and OST 240, or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 225(3) Course ID: 003776
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. Pre-requisite: (OST 105 and OST 110) or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 235(3) Course ID: 003777
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. Pre-requisite: (ENG 101 or OST 108). Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 240(3) Course ID: 003778
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).
Components: Lecture
Attributes: Technical

OST 250(3) Course ID: 004514
Advanced Desktop Publishing
Provides advanced techniques in electronic publishing design, layout, composition and paste-up. Pre-requisite: OST 225 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 255(2) Course ID: 004425
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. Pre-requisite: OST 105 or OST 225 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 272(3) Course ID: 004511
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. Pre-requisite: OST 105. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

OST 275(3) Course ID: 003779
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. Laboratory: 0 credits.
Components: Lecture
Attributes: Course Also Offered in Modules, Technical

OST 295(1 - 3) Course ID: 003780
Instructor Consent Required
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. Pre-requisite: OST 210, OST 215, and OST 240, or consent of instructor. Laboratory: 1.0 - 3.0 credits (45-135 contact hours).
Components: Laboratory
Attributes: Technical

OST 1101(1) Course ID: 016303
Word Processing Functions
Provides basics of word processing including the information processing cycle, using spell check, proofreading and keypad accuracy using industry standard software. Pre-requisite: RDG 020 or Consent of Instructor (OST 101 equivalent skills). Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 1102(1) Course ID: 016304
Document Letters Memoranda
Provides experience in word processing for keying letters and memoranda using industry standard software. Pre-requisite: OST 1101 or Consent of Instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 2101(1) Course ID: 016306
Advanced Formatting and Tools
Uses advanced formatting features and Word Processing Tools of a current word processing software. Pre-requisite: OST 110. Lecture: 1 credit (15 contact hours)
Components: Lecture

OST 2102(1) Course ID: 016307
Print and File Management
Uses advanced features of a current word processing software to manage file management, printing, and editing. Pre-requisite: OST 2101 or Consent of Instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 2103(1) Course ID: 016308
Advanced Word Processing Tools
Uses advanced features of a current word processing software to format tables, insert graphics and clipart, and forms. Pre-requisite: OST 2102 or Consent of Instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 2251(1) Course ID: 016309
Desktop Publishing Software
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. Pre-requisite: (OST 105 and OST 110) or Consent of Instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 2252(1) Course ID: 016310
Desktop Publishing Design and Features
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. Pre-requisite: OST 2251 or Consent of Instructor. Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 295(1 - 3) Course ID: 006868
Instructor Consent Required
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. Pre-requisite: Completion of ENG 101 with a “C” or better and consent of instructor. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

OST 2751(0.5) Course ID: 005806
Office Management Principles
Includes introductory management principles and techniques for the modern business office. Lecture: 0.5 credits (7.5 contact hours).
Components: Lecture

OST 2752(1) Course ID: 005807
Managing Human Resources in the Office
Includes management principles and techniques and their application to the management of human resources in the modern business office. Pre-requisite: OST 2751. Lecture: 1 credit (15 contact hours).
Components: Lecture

OST 2753(0.5) Course ID: 005808
Managing Office Administrative Services
Management principles and techniques for the modern business office as they apply to the development of an information system and the management of physical resources are included. Pre-requisite: OST 2751. Lecture: 0.5 credit. (7.5 contact hours).
Components: Lecture

OST 2754(1) Course ID: 005809
Managing Office Administrative Systems
Includes quality management principles and techniques for the administrative systems in a modern business office. Pre-requisite: OST 2751. Lecture: 1 credit. (15 contact hours).
Components: Lecture

OTA 101(3) Course ID: 006868
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. Pre-requisite: Completion of ENG 101 with a “C” or better and consent of instructor. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

OTA 113(2) Course ID: 006869
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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical

OTA 115(2) Course ID: 006868
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. Pre-requisite: Admission to OTA program and permission of instructor. Co-requisite: OTA 267 OR OTA 277. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture
Attributes: Technical
OTA 116(2) Course ID:006882
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. Focusses 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 medication. Pre-requisite: Admission to OTA program and permission of instructor. Lecture: 2.0 credits (90 contact hours).
Components: Laboratory Attributes: Technical

OTA 125(2) Course ID:006883
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 to decrease the problems faced by individuals. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

OTA 125(1) Course ID:006870
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. Pre-requisite: Admission to OTA program and permission of instructor. Clinical: 1.0 credit (60 contact hours).
Components: Clinical Attributes: Technical

OTA 136(4) Course ID:006871
Physical Dysfunction
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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

OTA 146(3) Course ID:006872
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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 3.0 credits (75 contact hours).
Components: Lecture Attributes: Technical

OTA 206(2) Course ID:006873
Community Practice
Explores the current and emerging practice areas of occupational therapy in the immediate and future needs. Focusses on occupation-based practice, holism, wellness, and prevention models applied throughout the lifespan. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

OTA 216(2) Course ID:006884
Skills and Interventions II
Focuses on occupation-based practice, holism, wellness, occupational therapy in the immediate and future needs. 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. Pre-requisite: Admission to OTA program and permission of instructor. Lab: 2.0 credits (90 contact hours).
Components: Laboratory Attributes: Technical

OTA 225(2) Course ID:006885
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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

OTA 226(1) Course ID:006874
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. Pre-requisite: Admission to OTA program and permission of instructor. Clinical: 1.0 credit (60 contact hours).
Components: Clinical Attributes: Technical

OTA 236(2) Course ID:006875
Professional Transitions and Management
Exposes 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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical

OTA 246(3) Course ID:006876
Pediatric Issues in Occupational Therapy
Examines occupational therapy in the pediatric population. Investigates howphysical, 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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 3.0 credits (75 contact hours).
Components: Lecture Attributes: Technical

OTA 256(2) Course ID:006877
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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

OTA 267(5) Course ID:007410
Level IIA Fieldwork
Presents typical and dysfunctional behavior using the occupational therapy process as it pertains to mental health. 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. Pre-requisite: Admission to OTA program and permission of instructor. Lecture/Lab: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

OTA 277(5) Course ID:007411
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. Pre-requisite: Admission to the Occupational Therapy Assistant Program or permission of instructor. Practicum: 5.0 credits (300 contact hours).
Components: Practicum Attributes: Technical

OTA 286(2) Course ID:006880
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. Pre-requisite: Admission to OTA program and permission of instructor. Co-requisite: OTA 267 OR OTA 277. Lecture: 2.0 credits (30 contact hours).
Components: Lecture Attributes: Technical

PGL Paralegal Technology
PGL 111(3) Course ID:007051
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. Pre-requisite: ACT, COMPASS, or ASSET scores for college level reading and writing OR completion of Transitional reading and writing courses. Co-requisite: PGL 112. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical

PGL 112(3) Course ID:007052
Legal Research
Introduces the basic sources of law and methods of legal research, including ethics. Pre-requisite: ACT, COMPASS, or ASSET scores for college level reading and writing OR completion of Transitional reading and writing courses. Co-requisite: PGL 111. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical
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. Pre-requisite: PGL 214. Lecture: 3.0 credits (45 contact hours).

Components: Lecture Attributes: Technical
Components: Lecture Attributes: Technical
PHB 100(6) Course ID:001938
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).

Components: Lecture Attributes: Technical
PHB 120(6) Course ID:003809
Fundamentals of Clinical Laboratory Phlebotomy
Fundamental techniques of areas of the clinical laboratory appropriate to the phlebotomist are introduced. Included is a study of medical ethics, medical terminology, anatomy and physiology of the circulatory system, professional organizations, communication, record keeping, specimen collection, chain of custody, laboratory safety, and quality control. Pre-requisite: CPR Certification, Malpractice insurance, Hepatitis, Varicella, PPD, Rubella, and Rubella blood work results. Lecture: 3 hours; Laboratory: 9 hrs.

Components: Laboratory, Lecture Attributes: Technical
PHB 151(1) Course ID:004072
Instructor Consent Required
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).

Components: Lecture Attributes: Technical
PHB 152(1) Course ID:004175
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 Co-requisite: PHB 151, PHB 170 or MAJ 120. Laboratory: 1.0 credit (30 contact hours).

Components: Laboratory Attributes: Technical
PHB 155(2 - 3) Course ID:001939
Phlebotomy Clinical
This course is designed to build on the knowledge acquired in phlebotomy lecture and lab. In this course the student will use external institutions for clinical experience to become more proficient in the performance of routine venipuncture and capillary collection. The student will gain the experience needed to handle routine venipuncture complications and the skills necessary to adequately perform the duties of a phlebotomist. Pre-requisite: PHB 151 Phlebotomy for the Healthcare Professional with a grade of "C" or better OR (PHB 100 Phlebotomy with a grade of "C" or better) OR (PHB 170 Applied Phlebotomy with a grade of "C" or better.) Lecture/Lab: 2.0 - 3.0 credits (120 - 180 contact hours).

Components: Lecture Attributes: Technical
PHB 170(3) Course ID:006441
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. Pre-requisite: Permission of the MLT Program Director/MLT Clinical Coordinator. Co-requisite: PHB 152, Lecture/Lab: 3.0 credits (60 contact hours).

Components: Lecture Attributes: Technical
PHI 100(3) Course ID:000894
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).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 110(3) Course ID:002202
Medical Ethics
Introduces examination and application of major ethical theories to specific moral questions related to health care. Lecture: 3 credits (45 contact hours).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 120(3) Course ID:000356
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).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 130(3) Course ID:000354
Ethics
Introduces students to a critical examination of philosophical principles related to moral action and political values. Lecture: 3 credits (45 contact hours).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 140(3) Course ID:005139
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).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 150(3) Course ID:000359
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).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 160(3) Course ID:001595
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. Pre-requisite: ENG 101. Lecture: 3.0 credits (45 contact hours).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 170(3) Course ID:001632
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. Pre-requisite: ENG 101. Lecture: 3.0 credits (45 contact hours).

Components: Lecture Course Equivalents: REL 170 Attributes: AH - Arts and Humanities, Other
PHI 180(3) Course ID:0016765
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).

Components: Lecture Attributes: AH - Arts and Humanities, Other
PHI 200(3) Course ID:016766
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).

Components: Lecture Attributes: AH - Arts and Humanities, Other
PHI 250(3) Course ID:016844
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. 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. Lecture: 3.0 credits (45 contact hours).

Components: Lecture Attributes: OR - Quantitative Reasoning
PHI 250S(1 - 2) Course ID:017296 Co-requisite
Remediation for Symbolic Logic

Components: Lecture Attributes: Other
PHI 260(3) Course ID:000698
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. Pre-requisite: ENG 101. Lecture: 3 credits (45 contact hours).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 270(3) Course ID:000497
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. Pre-requisite: ENG 101. Lecture: 3 credits (45 contact hours).

Components: Lecture Attributes: AH - Arts and Humanities
PHI 299(3) Course ID:006869
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).

Components: Lecture Attributes: Other
PHI 1501(1) Course ID:016636
Theories in Business Ethics
Presents ethical theories and techniques of moral reasoning used to analyze moral issues in business. Lecture: 1.0 credits (15 contact hours).

Components: Lecture
PHI 1502(1)  Course ID:016637
Applying Business Ethics
Applies ethics and reasoning to current issues of management. Pre-requisite: PHI 1501. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

PHI 1503(1)  Course ID:016638
Defending Business Ethics
Evaluates current theories of corporate responsibility. Pre-requisite: PHI 1502. Lecture: 1.0 credits (15 contact hours).
Components: Lecture

PHRS UTC Physics

PHY 151(3)  Course ID:000840
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. Pre-requisite: KCTCS placement in College Algebra or completion of Intermediate Algebra. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: SN - Science

PHY 152(3)  Course ID:000402
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. Pre-requisite: KCTCS placement in College Algebra or completion of Intermediate Algebra. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: SN - Science

PHY 160(3)  Course ID:000436
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. Pre-requisite: GLY 160. Lecture: 1 credit hour (15 contact hours). Lab: 2 credit hours (75 contact hours).
Components: Laboratory, Lecture
Attributes: SL - Science Laboratory, SN - Science

PHY 161(1)  Course ID:000471
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).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 162(1)  Course ID:000475
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. Laboratory: 1 credit (15 contact hours). Lab: 1 credit hour (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 171(4)  Course ID:000156
Applied Physics
Surveys mechanics, heat, sound, electricity, magnetism, light, and modern physics as applied to practical systems. Pre-requisite: (MAT 085 or (MAT 116 or greater) or Equivalent math placement score) or consent of instructor. Lecture: 3.0 credits (45 contact hours). Lab: 1.0 credits (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 172(2)  Course ID:004817
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. Pre-requisite: KCTCS placement in College Algebra or completion of Intermediate Algebra. Lab: 2 credit hours (60 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory, SN - Science, Course Also Offered in Modules

PHY 201(4)  Course ID:000911
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. Pre-requisite: (MAT 150 or higher) or MA109 or an ACT math score of 25 or higher. Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).
Components: Discussion, Lecture
Attributes: SN - Science

PHY 202(1)  Course ID:000627
College Physics I Laboratory
Enhances concepts introduced in PHY 201 through experiments in classical mechanics and thermal physics. Pre-requisite Or Co-requisite: PHY201 or equivalent. Laboratory: 1 hour (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 203(4)  Course ID:000524
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. Pre-requisite: PHY 201 or equivalent. Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).
Components: Discussion, Lecture
Attributes: SN - Science

PHY 204(1)  Course ID:000192
College Physics II Laboratory
Enhances concepts introduced in PHY 203 through experiments in electricity, magnetism, and optics. Pre-requisite Or Co-requisite: PHY203 or equivalent. Lab: 1.0 credit hour (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 231(4)  Course ID:000290
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 Co-requisite: MAT185 or MA 114 or equivalent. Lecture: 3 credit hours (45 contact hours). Discussion: 1 credit hour (15 contact hours).
Components: Discussion, Lecture
Attributes: SN - Science

PHY 232(4)  Course ID:000625
General University Physics II
Focuses on electromagnetic phenomena, circuits, and optics using vector calculus. Companion lecture to PHY 242 laboratory. Pre-requisite: PHY 231. Pre-requisite Or Co-requisite: PHY 232 laboratory. 1 credit hour (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 241(1)  Course ID:000638
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 Co-requisite: PHY 231 laboratory. 1 credit hour (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 242(1)  Course ID:000642
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 Co-requisite: PHY 232. Laboratory: 1 credit hour (30 contact hours).
Components: Laboratory
Attributes: SL - Science Laboratory

PHY 1711(0.5)  Course ID:006109
Motion & Newton's Laws
Surveys selected topics in velocity, acceleration, and force. Pre-requisite: (MA 108 or (MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 credit (9.37 contact hours).
Components: Lecture

PHY 1712(0.5)  Course ID:006110
Work, Energy, Power, and Momentum
Surveys selected topics in work, energy, power, and momentum. Pre-requisite: (MA 108 or (MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 credit (9.38 contact hours).
Components: Lecture

PHY 1713(0.5)  Course ID:006111
Fluid Dynamics
Surveys selected topics in fluid dynamics. Pre-requisite: (MA 108 or (MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 credit (9.38 contact hours).
Components: Lecture

PHY 1714(0.5)  Course ID:006112
Thermodynamics
Surveys selected topics in thermodynamics. Pre-requisite: (MA 108 or (MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 credit (9.38 contact hours).
Components: Lecture

PHY 1715(0.5)  Course ID:006113
Electricity and Magnetism
Surveys selected topics in electricity and magnetism. Pre-requisite: (MA 108 or (MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 credit (9.37 contact hours).
Components: Lecture
PLPH 1716(0.5) Course ID:006114
Wave Motion, Sound, and Light
Includes selected topics in wave mechanics, sound, and optics. Pre-requisite: (MA 108 or MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 credit (9.38 contact hours).
Components: Lecture
PLPH 1717(0.5) Course ID:006115
Modern and Nuclear Physics
Surveys selected topics in atomic, nuclear, and modern physics. Pre-requisite: (MA 108 or (MT 115 or greater) or Equivalent math placement score) or consent of instructor. Lecture/Lab: 0.5 contact hours.
Components: Lecture
PLPH 1718(0.5) Course ID:006116
Integrated Physics Concepts
Surveys selected topics in applied physics. Pre-requisite: PHY 1711 and PHY 1712 and PHY 1713 and PHY 1714 and PHY 1715 and PHY 1716, and PHY 1717 or Consent of instructor. Lecture/Lab: 0.5 credit (9.36 contact hours).
Components: Lecture

PL Plastics

PL 151(4) Course ID:001960
Polymer Science & Testing
Provides an in-depth study of various plastics and important processing methods. Examines molecular structures and their effect on mechanical, chemical and physical properties. Includes commodity and engineering thermoplastics, thermostets and elastomers, extrusion, injection, blow molding and thermoforming. Pre-requisite: PL 101. Lecture: 4 credits (60 contact hours).
Components: Lecture

PLB Plumbing

PLB 100(3) Course ID:004325
Basic Theory of Plumbing
Provides a history of the plumbing trade and basic principles of the trade. Lecture: 2 credits (45 contact hours).
Components: Lecture
Attributes: Technical
PLB 105(3) Course ID:004326
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 (150 contact hours).
Components: Laboratory
Attributes: Technical
PLB 150(3) Course ID:001945
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).
Components: Lecture
Attributes: Technical
PLB 151(3) Course ID:001946
Basic Plumbing Skills
This course introduces the student to basic pipe joining techniques. Co-requisite: PLB 150. Laboratory: 3 credits (135 contact hours).
Components: Laboratory
Attributes: Technical
PLB 163(2) Course ID:001949
Plumbing Fixtures
Develops the skills necessary to rough-in and install a kitchen group and laundry fixtures for residential and commercial applications. Pre-requisite: PLB 150. Co-requisite: PLB 250. Laboratory: 2 credits (90 contact hours).
Components: Laboratory

PLB 250(3) Course ID:0001950
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. Pre-requisite: PLB 150. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

PLB 251(2) Course ID:0001951
Pumps and Water Heaters
Develops skills in the installation of plumbing appliances (water heater), and appurtenances. Pre-requisite: PLB 150. Co-requisite: PLB 250. Laboratory: 2 credits (90 contact hours).
Components: Laboratory
Attributes: Technical

PLB 260(2) Course ID:001953
Serve
This course presents the study of methods, procedures, and skills involved in planning and estimating residential and commercial plumbing fixtures and systems. Pre-requisite: PLB 150 or equivalent. Lecture: 2 credits (30 contact hours).
Components: Laboratory
Attributes: Technical

PLB 262(2) Course ID:001955
Backflow Prevention
This course teaches the student how to protect portable water systems from the hazards of backflow. Pre-requisite: Consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

PLB 270(3) Course ID:0001956
License Preparation for Journeyman Exam
Provides a study of Kentucky Code in preparation for the Journeyman Exam. Lecture: 2 credits (30 contact hours).
Components: Laboratory, Lecture
Attributes: Technical

PLB 298(4) Course ID:004251
Instructor Consent Required
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. Pre-requisite: Consent of instructor. Practicum: 4 credits (180 contact hours).
Components: Practicum
Attributes: Technical

PLB 299(4) Course ID:0001958
Instructor Consent Required
Cooperative Education
Provides students with experience in the plumbing industry. This will be paid evaluation of a student's developed skills. Pre-requisite: Consent of Instructor. Co-op: 4 credits (300 contact hours).
Components: Co-Op
Attributes: Technical

PLS Paralegal Studies

PLS 190(3) Course ID:016575
Introduction to Paralegal Studies
Introduces state and federal judicial systems and paralegal roles and careers. Emphasizes rules of professional conduct, legal ethics and unauthorized practice of law by non-lawyers. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: University Course (Western Kentucky University)

PLS 200(3) Course ID:016948
Legal Ethics
Study, analysis and application of codes of professional responsibility and standards of conduct governing the practice of law in state and federal courts. Semester Hours: 3.0 Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: University Course (Western Kentucky University)

PLW Project Lead The Way

PLW 100(4) Course ID:006695
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).
Components: Lecture
Attributes: Technical

PLW 125(4) Course ID:006696
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. Pre-requisite: PLW 100. Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture
Attributes: Technical

PLW 130(4) Course ID:007197
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. Pre-requisite: Reading, English, and Mathematics assessment exam scores above the KCTCS transitional placement level or successful completion of the prescribed transitional course(s). Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture
Attributes: Technical

PLW 135(4) Course ID:007281
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. Pre-requisite: PLW 130. Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture
Attributes: Technical

PLW 140(4) Course ID:015805
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. Pre-requisite: PLW 135. Lecture: 4.0 credits (150 contact hours).
Components: Lecture
Attributes: Technical
PLW 145(4) Course ID:016454
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. Pre-requisite: PLW 140. Lecture: 4 credits (150 contact hours).
Components: Lecture
Attributes: Technical

PLW 150(4) Course ID:006697
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).
Components: Laboratory, Lecture
Attributes: Technical

PLW 200(4) Course ID:006698
Aerospace Engineering
The major focus of the Aerospace EngineeringTM (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. Pre-requisite: PLW-100, PLW-125, and PLW-150. Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture

PLW 225(4) Course ID:006699
Civil Engineering and Architecture
The major focus of the Civil Engineering and ArchitectureTM (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. Pre-requisite: PLX-100, PLW-125, and PLW-150. Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture
Attributes: Technical

PLW 250(4) Course ID:006700
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; CAD Software; Robotics; and Flexible Manufacturing Systems. Pre-requisite: PLW-125, and PLW-150. Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture

PLW 295(4) Course ID:006701
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. 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. Lecture/Lab: 4.0 credits (150 contact hours).
Components: Lecture

PMX 100(3) Course ID:001962
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).
Components: Lecture
Attributes: Technical

PSM 101(3) Course ID:005552
Bluesgrass & 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).
Components: Lecture
Attributes: Technical

PSM 105(1) Course ID:005553
Recording I
Introduces recording and sound reproduction history, terminology, equipment, and practical session experience. Lab: 1.0 credit (30 contact hours).
Components: Laboratory
Attributes: Technical
PSM 107(1) Course ID:007257
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: Laboratory
PSM 112(1) Course ID:007258
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 8 credits. Pre-requisite: Audition. Lab: 1.0 credit (30 contact hours).
Components: Laboratory Attributes: Technical
PSM 113(1) Course ID:007259
Guitar I
Teaches basic fundamentals of bluegrass and traditional chords, rhythm and simple flat-picking lead along with standard tuning and set-up tips. Pre-requisite: MUS 174 or Consent of Instructor. Lab: 1.0 credit (30 contact hours).
Components: Laboratory
PSM 114(2) Course ID:007260
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).
Components: Laboratory Attributes: Technical
PSM 117(1) Course ID:007261
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. Pre-requisite: PSM 107 or Consent of Instructor. Lab: 1.0 credit (30 contact hours).
Components: Laboratory
PSM 118(2) Course ID:007262
Bluegrass & Traditional Harmony/Part Singing
Introduces basic bluesgrass and traditional harmony/part singing and theory using ear training, number notation and basic chords. Pre-requisite: MUS 174 or Consent of Instructor. Lab: 2.0 credits (60 contact hours).
Components: Laboratory
PSM 121(3) Course ID:005557
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. Pre-requisite: PSM 101 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
PSM 125(1) Course ID:005558
Recording II
Provides practical studio and set-up training for recording sessions utilizing software and computers. Pre-requisite: PSM 105 or Consent of Instructor. Laboratory: 1.0 credit (30 contact hours).
Components: Laboratory Attributes: Technical
PSM 128(1) Course ID:005559
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. Pre-requisite: PSM 108 or Consent of Instructor. Lab: 1.0 credit (30 contact hours).
Components: Laboratory
PSM 217(2) Course ID:007263
Songwriting III
Provides guidance through the process of creating and refining original melodies and lyrics and music under the direction of a professional songwriter, emphasizing writing for specific media and multi-writer collaboration. Pre-requisite: PSM 117 or Consent of Instructor. Lab: 2.0 credits (60 contact hours).
Components: Laboratory
PSM 221(2) Course ID:007264
Songwriting IV
Provides guidance through the process of creating an effective demo and marketing original songs under the direction of a professional songwriter, emphasizing writing for specific media and multi-writer collaboration. Pre-requisite: PSM 217 or Consent of Instructor. Lab: 2.0 credits (60 contact hours).
Components: Laboratory
PSM 231(3) Course ID:005560
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 barn dances. Pre-requisite: PSM 121 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Technical
PSM 235(2) Course ID:005561
Recording III
Provides an in-depth study of computer and Pro Tools software, recording techniques and applications. Pre-requisite: PSM 125 or Consent of Instructor. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical
PSM 238(2) Course ID:005562
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. Pre-requisite: PSM 128 or Consent of Instructor. Lab: 2.0 credits (60 contact hours).
Components: Laboratory Attributes: Technical
PSM 241(3) Course ID:005563
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. Pre-requisite: PSM 231. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
PSM 245(2) Course ID:005564
Recording IV
Provides an advanced and complex study of recording, mixing and editing software session data to finished products. Pre-requisite: PSM 235 or Consent of Instructor. Laboratory: 2.0 credits (60 contact hours).
Components: Laboratory
PSM 248(2) Course ID:005565
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. Pre-requisite: PSM 238 or Consent of Instructor. Lab: 2.0 credits (60 contact hours).
Components: Laboratory
PSM 250(3) Course ID:005566
Instructor Consent Required
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). Pre-requisite: Consent of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (60 contact hours).
Components: Laboratory, Lecture

PSW _Professional Artist/Woodwork

PSW 211(3) Course ID:000563
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. Pre-requisite or Co-requisite: Current placement scores for college level reading established by KCTCS or completion of, or concurrent enrollment in, transitional reading course(s). Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: SB - Social Behavior Science, Course Also Offered in Modules
PSW 180(3) Course ID:000151
Human Relations
Explores the sociological and psychological forces that affect interpersonal relationships as individuals work and live together. Pre-requisite: ACT, COMPASS, or ASSET scores for college level reading OR completion of Transitional reading course(s). Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: SB - Social Behavior Science
PSW 185(3) Course ID:000602
Human Potential
Introduces the principles of relating to self and others and focuses upon self-growth. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: SB - Social Behavior Science
PSW 188(1) Course ID:000604
Directed Undergraduate Research 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. Pre-requisite: PSY 110 and consent of instructor. Lecture: 1.0 credit (15 contact hours).
Components: Lecture Attributes: Other
PSW 189(1 - 2) Course ID:000606
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. Pre-requisite: PSY 213 and consent of instructor (if PSY 215 is changed to PSY 213 Research Methods) Laboratory: 1.0 - 2.0 credits (30-60 contact hours).
Components: Laboratory Attributes: Other
PSW 212(4) Course ID:002256
Applications of Statistics in Psychology
Introduces students to descriptive and inferential statistics in design, analysis, and interpretation of psychological research. Pre-requisite: ACT, COMPASS, or ASSET score for college level mathematics or completion of Transitional math course(s); PSY 110. Lecture/Lab: 4.0 credits (75 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Other

341
PSY 213(4) Course ID:002255
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. Pre-requisite: PSY 110. Lecture/ Lab: 4.0 credits (75 contact hours).
Components: Lecture Attributes: Other

PSY 223(3) Course ID:000488
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. Pre-requisite: PSY 100 or PSY 110. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Other

PSY 230(3) Course ID:000387
Psychosocial Aspects of Death and Dying
Examines the biopsychological, 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. Pre-requisite: PSY 110 or SOC 101, or consent of instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Other

PSY 297(3) Course ID:004818
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. Pre-requisite: PSY 110 or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Other

PSY 298(3) Course ID:004819
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. Pre-requisite: PSY 110 or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Other

PSY 2232(0.6) Course ID:006380
Infancy through Early Childhood
Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of infancy, toddlerhood, and early childhood. Pre-requisite: PSY 2231. Lecture: 0.6 credit (9 contact hours).
Components: Lecture

PSY 2233(0.6) Course ID:006381
Middle Childhood & Adolescence
Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of middle childhood and adolescence. Pre-requisite: PSY 2232. Lecture: 0.6 credit (9 contact hours).
Components: Lecture

PSY 2234(0.6) Course ID:006382
Emerging and Middle Adulthood
Emphasizes theory and data relating to the physical, cognitive, and psycho-social developmental aspects of emerging and middle adulthood. Pre-requisite: PSY 2233. Lecture: 0.6 credit (9 contact hours).
Components: Lecture

PSY 2235(0.6) Course ID:006383
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. Pre-requisite: PSY 2234. Lecture: 0.6 credit (9 contact hours).
Components: Lecture

PTA 101(5) Course ID:0016102
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. Pre-requisite: Admission to the PTA Program and completion of BIO 137 with a grade of "C" or better. Co-requisite: PTA 125. Lecture: 2 credits (30 contact hours). Lab: 3 credits (90 contact hours).
Components: Laboratory, Lecture Attributes: Technical

PTA 120(2) Course ID:006723
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. 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. Lecture: 2 credits (30 contact hours).
Components: Lecture

PTA 121(2) Course ID:006724
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. 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. Lab: 2 credits (60 contact hours).
Components: Laboratory

PTA 125(1) Course ID:007370
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. Pre-requisite: Admission to the PTA Program and completion of BIO 137 with a grade of "C" or better. Co-requisite: PTA 101. Lecture: 1.0 credit (15 contact hours).
Components: Lecture

PTA 150(6) Course ID:004174
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. 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.] OR [Pathway 2: Admission to the PTA Program and completion of BIO 137 & BIO 139 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]. Lecture: 3.0 credits (45 contact hours). Lab: 3.0 credits (90 contact hours).
Components: Laboratory, Lecture Attributes: Course Also Offered in Modules, Technical

PTA 160(3) Course ID:004173
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. 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. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

PTA 170(1) Course ID:004013
Clinical Practicum I
Includes clinical interventions and practice of selected physical therapy interventions and data collection with the application of knowledge from previous/concurrent PTA courses and general education coursework. 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.] OR [Pathway 2: Admission to the PTA Program and completion of BIO 137 & BIO 139 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]. Clinical: 1 credit (60 contact hours).
Components: Clinical Attributes: Technical

PTA 200(5) Course ID:004017
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. Pre-requisite: If you, 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. Lecture: 2 credits (30 contact hours). Laboratory: 3 credits (90 contact hours).
Components: Laboratory Attributes: Course Also Offered in Modules, Technical
PTA 202(2) Course ID:006725
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. 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. Student cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lecture: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

PTA 203(2) Course ID:006726
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. 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. 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).
Components: Laboratory Attributes: Technical

PTA 222(2) Course ID:006772
Pathology & Rehabilitation of Orthopedic Conditions
Focuses on etiology, pathology, progression, prevention, data collection, and selected physical therapy interventions 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, and rehabilitation of women’s health issues. 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. Lecture: 2 credits (30 contact hours). Laboratory: 3 credits (90 contact hours).
Components: Laboratory, Lecture Attributes: Technical

PTA 223(2) Course ID:006778
Pathology & Rehabilitation of Orthopedic Conditions Lab
Focuses on etiology, pathology, progression, 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 health issues. Pre-requisite: Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a C or better. Completion of PTA 170 with a grade of “P”. Co-requisite: PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 240. 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).
Components: Lecture Attributes: Technical

PTA 234(2) Course ID:006790
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, genetic/developmental, and balance disorders. Includes the study of neuromuscular re-education. Pre-requisite: Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a C or better. Completion of PTA 170 with a grade of “P”. Co-requisite: PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 240. Students cannot progress to PTA 240 without a grade of C or better in all other co-requisite courses. Lecture: 2 credits (60 contact hours).
Components: Laboratory Attributes: Technical

PTA 234(2) Course ID:006791
Pathology & Rehabilitation of Neurological & Pediatric Conditions Lab
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, genetic/developmental, and balance disorders. Includes the study of neuromuscular re-education. Pre-requisite: Admission to the PTA Program; Completion of PTA 1501, PTA 1502, PTA 120, and PTA 121 with a C or better. Completion of PTA 170 with a grade of “P”. Co-requisite: PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 240. Students 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).
Components: Lecture Attributes: Technical

PTA 250(5) Course ID:004019
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/developmental disorders, and other neurodegenerative disorders. Includes normal growth and development and the rationale and techniques of neuromuscular re-education. Pre-requisite: Admission to the PTA Program and completion of PTA 240 with a grade of “P” and PTA 240 with a grade of “P”. Co-requisite: PTA 260. 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 (30 contact hours).
Components: Laboratory, Lecture Attributes: Technical

PTA 255(1) Course ID:006732
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; intemotuery disorders; and wounds. Includes therapeutic exercise and wound care. Pre-requisite: PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 203 with a C or better. Completion of PTA 240 with a grade of “P”. Co-requisite: PTA 256, PTA 260, and PTA 280. 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).
Components: Laboratory Attributes: Technical

PTA 260(2) Course ID:001684
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; intemotuery disorders; and wounds. Includes therapeutic exercise and wound care. Pre-requisite: PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 203 with a C or better. Completion of PTA 240 with a grade of “P”. Co-requisite: PTA 255, PTA 260, and PTA 280. Students cannot progress to PTA 280 without a grade of C or better in all other co-requisite courses. Lecture: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical

PTA 260(2) Course ID:004172
Seminar in Physical Therapy
Provides opportunities for students to assist in the student’s 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. 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”]; OR [Pathway 2: PTA 202, PTA 203, PTA 222, PTA 223, PTA 234, PTA 233, PTA 202, and PTA 203 with a C or better. Completion of PTA 240 with a grade of “P”]. Co-requisite: PTA 255, PTA 256, PTA 255, and PTA 280. Students cannot progress to PTA 280 without a grade of “C” or better in all co-requisite courses. Lecture: 2.0 credits (60 contact hours).
Components: Lecture Attributes: Technical
Components: Lecture

Contact hours: 3 credits (45 contact hours).

Components: Practicum

Attributes: Technical

Course ID: 006721

Quality Management Systems

QMS 101(3) Introduction to Quality Systems

Students are introduced to the 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).

Components: Lecture

Attributes: Course Also Offered in Modules, Technical

QMS 202(3) 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).

Components: Lecture

Attributes: Course Also Offered in Modules, Technical

QMS 210(3) Lean Processes

Introduces the concepts and skills of lean processes for manufacturing and service settings. Covers organizational readiness, SS, value stream mapping, kaizen, and visual workplace. Examines the implementation of processes.

Pre-requisite: QMS 101 or Consent of Instructor and MA 109 or MT 150. Lecture: 3 credits (45 contact hours).

Components: Lecture

Attributes: Technical

QMS 212(3) 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.

Pre-requisite: QMS 101 or consent of instructor. Lecture: 3 Credits (45 contact hours).

Components: Lecture

Attributes: Technical

QMS 240(3) 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.

Pre-requisite: MA 109 or MT 150. Lecture: 3 credits (45 contact hours).

Components: Lecture

Attributes: Technical

QMS 262(4) Design of Experiments

Basic statistical methods are reviewed. Statistical techniques which parallel methods of SPC are introduced. Analysis of means, analysis of variance, and contrast comparisons are studied to facilitate the understanding of the different experimental design methods. Examples from manufacturing illustrate how to reduce product variability and optimum process factor settings. Computer software is utilized throughout the course. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (15 contact hours).

Pre-requisite: QMS 242 or Consent of Instructor. Laboratory: 3 credits (45 contact hours).

Components: Lecture

Attributes: Technical

QMS 1011(0.6) Understanding a Quality Focused Organization

Past quality initiatives and progressive quality trends.

Lecture: 0.6 credits (9 contact hours).

Components: Lecture

QMS 1012(0.6) Quality Tools of the Trade

Quality improvement tools and techniques and their integration into an organization. Pre-requisite: QMS 101 or consent of instructor. Lecture: 0.6 credits (9 contact hours).

Components: Lecture

QMS 1013(0.6) Systems for Quality Improvement

Integrated quality systems and operations that produce high levels of employee and intra-organizational commitment. Pre-requisite: QMS 1012 or consent of instructor. Lecture: 0.6 credits (9 contact hours).

Components: Lecture

QMS 1014(0.6) Quality Planning for Continuous Improvement

Organizational-wide planning techniques and processes focused on long-term quality improvement. Pre-requisite: QMS 1013 or consent of instructor. Lecture: 0.6 credits (9 contact hours).

Components: Lecture

QMS 1015(0.6) Feedback, Goals, and Applying Performance Management

The value and variety of feedback and its relationship to goal setting as the foundation of performance management. Pre-requisite: QMS 204 or consent of instructor. Lecture: 0.6 credits (9 contact hours).

Components: Lecture

QMS 2011(1) Personal Effectiveness for Quality Customer Service

Provides the development of cognitive processes and behavioral skills needed to improve personal and work group effectiveness. Includes self-evaluation, personal mission statements, time management, communication and listening techniques, coaching, mentoring, group problem solving, and decision making techniques. Pre-requisite: QMS 101 or consent of instructor. Lecture: 1 credit (15 contact hours).

Components: Lecture

QMS 2012(1) Understanding the Customer

Includes techniques for assessing internal and external customer needs and developing plans for delivery of quality customer service. Includes customer’s point of view, benchmarking quality customer service processes, and developing partnerships with customers. Pre-requisite: QMS 2011 or consent of instructor. Lecture: 1 credit (15 contact hours).

Components: Lecture

QMS 2021(0.6) Introduction to Performance Management

Emphasis on performance management and the ABC model of behavior change. Lecture: 0.6 credits (9 contact hours).

Components: Lecture

QMS 2022(0.6) ABC Analysis and Delivering Reinforcers

Principles of ABC analysis with emphasis on reinforcers and techniques in delivering reinforcers. Pre-requisite: QMS 2021 or consent or instructor. Lecture: 0.6 credits (9 Contact hours).

Components: Lecture

QMS 2023(0.6) Reinforcement Schedules and Unwanted Behavior

A variety of reinforcement schedules will be introduced and a number of procedures will be analyzed in dealing with unwanted behavior. Pre-requisite: QMS 2022 or consent of instructor. Lecture: 0.6 credits (9 contact hours).

Components: Lecture
RCP 120(3) Course ID:003787

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. Pre-requisite: Completion of MAT 110 OR MAT 146 OR MAT 150 with a grade of C or better. Completion of BIO 137 and ENG 101 with a grade of C or better. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

RCP 121(1) Course ID:004832

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. Pre-requisite or Co-requisite: RCP 122 with a grade of C or better; Valid Health Care Provider CPR card. Clinical: 1 credit (60 contact hours).

Components: Clinical
Attributes: Technical

RCP 122(4) Course ID:004831

Fundamentals of Respiratory Care

Introduces the 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. 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. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (60 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 125(4) Course ID:003788

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. Pre-requisite: (RCP 110 and BIO 137 and (MT 110 or MT 145 or MT 150) with a grade of C or better). Pre-requisite or Co-requisite: RCP 110. Lecture: 3 credits (45 contact hours). Laboratory: 1 credit (60 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 130(3) Course ID:003789

Pharmacology

Provides an in-depth study of pharmacological agents, their use in the practice of respiratory care for patients with cardiovascular or pulmonary impairment as well as accuracy in drug calculations and delivery. Lecture: 3 credits (45 contact hours). Pre-requisite: (RCP 110 and (MT 110 or MT 145 or MT 150) with a grade of C or better). Pre-requisite or Co-requisite: RCP 110 and (MT 110 or MT 145 or MT 150).

Components: Lecture
Attributes: Technical

RCP 135(1) Course ID:017210

Respiratory Pharmacology

Provides an overview of respiratory pharmacological agents and their use in the clinical practice of a respiratory therapist. Pre-requisite: Admission to the Respiratory Care Program. Lecture: 1 credit hour (15 contact hours).

Components: Lecture
Attributes: Technical

RCP 140(2) Course ID:004835

Cardiopulmonary Assessment

Emphasizes blood gas analysis; pulmonary function studies, electrocardiography and chest radiography. Pre-requisite: [(RCP 110 and RCP 122 and RCP 130) with a grade of C or better] or consent of instructor. Lecture: 1.5 credits (22.5 contact hours). Laboratory: 0.5 credit (15 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 150(2) Course ID:003790

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. Pre-requisite or Co-requisite: RCP 120 with a grade of C or better; Valid Health Care Provider CPR card. Clinical: 2 credits (120 contact hours).

Components: Clinical
Attributes: Technical

RCP 175(3) Course ID:003791

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).

Components: Clinical
Attributes: Technical

RCP 176(2) Course ID:004834

Respiratory Care Practice II

Emphasizes participation in the health care team while practicing techniques of basic respiratory care including airway management and bronchial hygiene. 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.). Clinical: 2 credits (120 contact hours).

Components: Clinical
Attributes: Technical

RCP 180(3) Course ID:003792

Ventilatory Support

Covers the technological and physiological aspects of mechanical ventilation including the theory of operation, classification, and management of the patient ventilator system. Pre-requisite: RCP 120 and RCP 150 with a grade of C or better. Lecture: 2 credits (30 contact hours); Laboratory: 1 credit (60 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 185(2) Course ID:004837

Introduction to Mechanical Ventilation

Introduces the technological aspects of mechanical ventilation including the theory of operation, classification and patient-ventilator system checks. Pre-requisite: [(RCP 140 and RCP 176) with a grade of C or better] or consent of instructor. Lecture: 1.5 credits (22.5 contact hours). Laboratory: 0.5 credit (15 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 190(2) Course ID:003793

Advanced Ventilatory Support

Addresses advanced concepts in ventilatory support, including physiologic effects, indications, monitoring and management of the patient-ventilator system. Pre-requisite: RCP 180 with a grade of C or better. Lecture: 1.5 credits (22.5 contact hours); Laboratory: 0.5 credits (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 195(4) Course ID:004838

Patient-Ventilator System Management

Addresses advanced concepts in ventilatory support including monitoring and management of the patient-ventilator system. Pre-requisite: [(RCP 185 and RCP 201) with a grade of C or better] or consent of instructor. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (60 contact hours).

Components: Lecture, Laboratory
Attributes: Technical

RCP 200(3) Course ID:003794

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. Pre-requisite: RCP 175 with a grade of C or better. Clinical: 3 credits (180 contact hours).

Components: Clinical
Attributes: Technical

RCP 201(2) Course ID:004836

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. Pre-requisite: [(RCP 140 and RCP 176) with a grade of C or better] or Consent of Instructor. Clinical: 2 credits (120 contact hours).

Components: Clinical
Attributes: Technical

RCP 204(3) Course ID:003795

Emergency & Special Procedures

Prepares students to participate in advanced emergency life support and special procedures. Pre-requisite or Co-requisite: RCP 135 and BIO 139 with a grade of C or better. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credit (30 contact hours).

Components: Lecture, Laboratory
Attributes: Technical

RCP 210(3) Course ID:003796

Cardiopulmonary Pathophysiology

Addresses the etiology, diagnosis, clinical manifestations and management of cardiovascular disorders as related to respiratory care including the fundamental microbiological principles and their relation to health and disease. Pre-requisite: [(RCP 110 or RCP 201 and RCP 185) with a grade of C or better] or consent of instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical
RCP 212(3) Course ID:003797
Neonatal/Pediatric Respiratory Care
Provides a study of the special needs of the neonatal and pediatric patient with focus on fetal cardipulmonary development, evaluation, assessment and treatment of cardiopulmonary conditions and diseases of the neonatal and pediatric patient, as well as equipment unique to this population. Pre-requisite: (RCP 185 and RCP 201) with a grade of C or better] or Consent of Instructor. Pre-requisite or Co-requisite: RCP 190 with a grade of C or better or Consent of Instructor. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credits (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 214(3) Course ID:003798
Advanced Diagnostic Procedures
Prepares students to assist physician in advanced diagnostic, and therapeutic procedures. Pre-requisite: BIO 139 with a grade of C or better. Lecture: 2.5 credits (37.5 contact hours). Laboratory: 0.5 credits (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

RCP 225(3) Course ID:003799
Clinical Practice IV
Provides observation and practice of advanced cardiopulmonary evaluation techniques while improving efficiency in the ventilatory management of patients. Pre-requisite: RCP 200 with a grade of C or better. Clinical: 3 credits (180 contact hours).

Components: Clinical
Attributes: Technical

RCP 226(4) Course ID:004041
Respiratory Care Practice IV
Provides observation and practice in advanced cardiopulmonary evaluation techniques while improving efficiency in the ventilatory management of adult patients. Pre-requisite: (RCP 176 and RCP 185) with a grade of C or better] or Consent of Instructor. Clinical: 4 credits (240 contact hours).

Components: Clinical
Attributes: Technical

RCP 228(2) Course ID:003800
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. Pre-requisite: (RCP 110 or RCP 195 and RCP 210 and RCP 212 and RCP 226) with a grade of C or better] or consent of instructor. Lecture: 2 credits (30 contact hours).

Components: Lecture
Attributes: Technical

RCP 240(3) Course ID:004044
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. Pre-requisite: (RCP 195 and RCP 210 and RCP 212, and RCP 226) with a grade of C or better] or consent of instructor. Lecture: 2.75 credits (41.25 contact hours). Laboratory: .25 contact hours. Pre-requisite: Consent of Instructor. Lecture: 15.5 contact hours. Pre-requisite: Consent of Instructor. Components: Lecture, Laboratory, Reading Workshop
Attributes: Technical

RCP 245(2) Course ID:004045
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).

Components: Laboratory, Lecture
Attributes: Technical

RCP 250(3) Course ID:003801
Clinical Practice V
Prepares students to participate in effective and efficient planning, managing and delivering respiratory care to diverse client populations in various settings. Pre-requisite: RCP 226 with a grade of C or better. Clinical: 3 credits (180 contact hours).

Components: Clinical
Attributes: Technical

RCP 251(4) Course ID:004843
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. Pre-requisite: [(RCP 195 and RCP 210 and RCP 212 and RCP 226) with a grade of C or better] or Consent of Instructor. Clinical: 4 credits (240 contact hours).

Components: Clinical
Attributes: Technical

RCP 256(1) Course ID:004846
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. Pre-requisite: [(RCP 200 and RCP 210 and RCP 212 and RCP 225) with a grade of C or better] or Consent of Instructor. Lecture: 1 credit (15 contact hours).

Components: Lecture
Attributes: Technical

RDG 020(3) Course ID:002286
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. Pre-requisite: As determined by KCTCS Placement Policy. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Remedial - Reading

RDG 029(3) Course ID:002287
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. Pre-requisite: As determined by KCTCS Placement Policy, or successful completion of RDG 020. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Remedial - Reading

RDG 041(1) Course ID:006805
Reading Laboratory
Designed to improve reading comprehension, vocabulary, and critical thinking skills. Strategies taught in this course will be applied to college level materials. Pre-requisite: Compass score 81-83: Lab: 1.0 credit (15 contact hours). Pre-requisite: Consent of Instructor. Pre-requisite: Consent of Instructor. Components: Laboratory
Attributes: Remedial - Reading

RDG 086(4) Course ID:016767
Introduction to College Reading
Improves proficiency in reading comprehension, critical thinking skills, and critical reading skills by developing vocabulary techniques, active reading strategies, comprehension accuracy, and interpretation of visual elements in text. Prepares students for college and career reading through individualized and/or group instruction and practice. Applies theories and strategies taught in the course to college and career reading materials. Pre-requisite: Consent of Instructor. KCTCS placement policy. Lecture: 4.0 credits (60 contact hours).

Components: Lecture
Attributes: Supplemental Reading

RDG 100(1 - 3) Course ID:015658
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. Pre-requisite: KCTCS Placement Policy. Lecture: 1.0-3.0 credits (15-45 contact hours).

Components: Lecture
Attributes: Other, Supplemental Reading

RDG 185(3) Course ID:000301
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. Pre-requisite: KCTCS Placement Policy. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Course Also Offered in Modules, Supplemental Reading

RDG 201(0.5) Course ID:006737
Active Reading
Applies active reading, metacognitive, self-evaluation, and rating rate strategies for proficiency in reading comprehension. Includes topics such as the reading process, self-monitoring and self-correcting comprehension, and adjusting reading strategies for various comprehension purposes. Pre-requisite: As determined by KCTCS Placement Policy. Lecture: 0.5 credits (7.5 contact hours).

Components: Lecture
Attributes: Remedial - Reading

RDG 202(0.75) Course ID:006738
Transitions, Thought Patterns
Construct meaning from texts through analyzing transitions and patterns of organization to improve comprehension and critical thinking skills. Pre-requisite: As determined by KCTCS Placement Policy. Lecture: .75 credits (11.25 contact hours).

Components: Lecture
Attributes: Remedial - Reading

RDG 203(1) Course ID:006739
Basics of Argument
Recognize basic argument components, analyze contradictions to prior learning, and draw valid conclusions about claims and supports for claims to improve critical reading and thinking skills. Use main ideas to accurately summarize texts. Pre-requisite: As determined by KCTCS Placement Policy. Lecture: 1.0 credits (15 contact hours).

Components: Lecture
Attributes: Remedial - Reading

RDG 204(0.75) Course ID:006740
Words and Visual Elements
Expands vocabulary through examining word parts and context clues, and infers tone and purpose through word combinations. Constructs meaning from visual elements to improve comprehension of text. Pre-requisite: As determined by KCTCS Placement Policy. Lecture: .75 credits (11.25 contact hours).

Components: Lecture
Attributes: Remedial - Reading

RDG 0301(0.75) Course ID:006741
Critical Reading
Uses active learning, prior knowledge, and metacognitive strategies to quickly enhance comprehension. Uses active learning, prior knowledge, and self-assessment strategies to quickly enhance comprehension of text. Pre-requisite: As determined by KCTCS Placement Policy, or successful completion of RDG 020. Lecture: .75 credits (11.25 contact hours).

Components: Lecture
Attributes: Remedial - Reading
RDG 0302(0.75)  Course ID:006742
Text Structures and Supports
Analyzes text structures, paragraphs, longer passages, and arguments for central ideas, supporting examples, reasons, and evidence to construct meaning from texts. Pre-requisite: As determined by KCTCS Placement Policy, or completion of RDG 020. Lecture: 75 credits (11.25 contact hours).
Components: Lecture
Attributes: Remedial - Reading

RDG 0303(0.75)  Course ID:006743
Logic and Evidence
Analyzes text for logical reasoning and valid supports to quickly detect key information in texts. Pre-requisite: As determined by KCTCS Placement Policy, or completion of RDG 020. Lecture: 75 credits (11.25 contact hours).
Components: Lecture
Attributes: Remedial - Reading

RDG 0304(0.75)  Course ID:006744
Words and Visual Elements
Construct meaning from word parts, context clues, connotation, and denotation for accurate comprehension of text. Evaluate word combinations to determine the author’s view, tone, and purpose for writing the texts. Infer meaning from visual elements such as diagrams, charts, and photos. Pre-requisite: As determined by KCTCS Placement Policy, or completion of RDG 020. Lecture: 75 credits (11.25 contact hours).
Components: Lecture
Attributes: Remedial - Reading

RDG 1851(0.75)  Course ID:006933
Critical Reading
Apply Active Reading, Metacognitive processes and analyze common text structures and supporting details to improve basic critical reading skills. Pre-requisite: current KCTCS placement policy. Lecture: 75 (11.25 contact hours).
Components: Lecture
Attributes: Enrichment Study Skills

RDG 1852(0.75)  Course ID:006934
Valid Supports
Identify patterns of writing and discern facts from opinions to determine valid supports. Use patterns and valid supports to organize ideas for a summary or concept map. Pre-requisite: RDG 1852. Lecture: 75 (11.25 contact hours).
Components: Lecture
Attributes: Enrichment Study Skills

RDG 1853(0.75)  Course ID:006935
Bias and Fallacies
Interpret the author’s devices for expressing the writing purpose, point-of-view and bias in informative, persuasive, and literary texts. Use this information to draw valid inferences and analyze logical reasoning from various types of texts. Pre-requisite: RDG 1852. Lecture: 75 credits (11.25 contact hours).
Components: Lecture
Attributes: Enrichment Study Skills

RDG 1854(0.75)  Course ID:006936
Words and Visuals
Construct meaning from vocabulary and visual elements, and use this information to summarize, map concepts, and paraphrase content to improve critical reading skills. Pre-requisite: RDG 1853. Lecture: 75 credits (11.25 contact hours).
Components: Lecture
Attributes: Enrichment Study Skills

REA 100(3)  Course ID:000906
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 management. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

REA 120(3)  Course ID:000365
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).
Components: Lecture
Attributes: Technical

REA 121(3)  Course ID:000778
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: Lecture

REA 200(3)  Course ID:000805
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. Pre-requisite: REA 100. Lecture: 3.0 credits (45 contact hours).
Components: Lecture

REA 201(3)  Course ID:000915
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. Pre-requisite: REA 100. Lecture: 3.0 credits (45 contact hours).
Components: Lecture

REA 202(3)  Course ID:000875
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: Lecture

REA 203(3)  Course ID:000527
Commercial and Industrial Property
Covers classifications of commercial and industrial properties. Includes investment, environment, financing, taxes, depreciation, ownership, cash flow projections, and discount analysis. Integrates computer applications. Lecture: 3.0 credits (45 contact hours).
Components: Lecture

REA 204(3)  Course ID:000825
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: Lecture

REA 205(3)  Course ID:000620
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: Lecture

REA 212(3)  Course ID:000194
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. Pre-requisite: REA 202. Lecture: 3.0 credits (45 contact hours).
Components: Lecture

REL 101(3)  Course ID:000916
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).
Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science

REL 120(3)  Course ID:005282
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).
Components: Lecture
Attributes: AH - Arts and Humanities

REL 121(3)  Course ID:005283
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).
Components: Lecture
Attributes: AH - Arts and Humanities
REL 130(3) Course ID:000360
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).
Components: Lecture
Course Equivalents: ANT 130
Attributes: Cultural Studies, AH - Arts and Humanities, SB - Social Behavior Science, Course Also Offered in Modules
REL 135(3) Course ID:007063
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: Lecture
REL 150(3) Course ID:007409
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).
Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities
REL 160(3) Course ID:017028
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, rituals, artistic expressions, and cultural and social organizations. Includes both Eastern and Western religions. 3 credits (45 contact hours).
Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities
REL 170(3) Course ID:005523
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).
Components: Lecture
Course Equivalents: PHI 170
Attributes: AH - Arts and Humanities, Other
REL 240(3) Course ID:006945
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).
Components: Lecture
Attributes: Other
REL 241(3) Course ID:006946
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: Lecture
Attributes: Other
REL 299(3) Course ID:006968
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).
Components: Lecture
Attributes: Other

RES 298(1 - 4) Course ID:002271
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.
Components: Lecture
Attributes: Technical

SCI 110(3) Course ID:017163
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. Pre-require: College Reading as indicated by CPE in reading and writing. Lecture: 3 credit hours (45 contact hours).
Components: Lecture
Attributes: SN - Science

SCI 295(3) Course ID:005237
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. Pre-require: 1. 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).
Components: Lecture
Attributes: SN - Science

SDC 100(1) Course ID:004847
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).
Components: Lecture
Attributes: Other, Enrollment 1st Year Experience

SDC 102(1) Course ID:004848
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).
Components: Lecture
Attributes: Other, Enrollment Course Other

SDC 104(1) Course ID:006187
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).
Components: Lecture
Attributes: Technical

SDC 105(1) Course ID:004849
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).
Components: Lecture
Attributes: Enrichment Career Counseling, Technical

SDC 109(1) Course ID:005053
Employability Skills
This course is designed to prepare students for the world of work. Students will be introduced to self and career assessment, employability skills (i.e., the application process, resume writing, interviewing, and follow-ups), and the job market and job search strategies. Lecture: 1 credit (15 contact hours).
Components: Lecture
Attributes: Enrichment Career Counseling, Technical

SDC 151(3) Course ID:017302
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. Pre-require: 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. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

SDC 152(3) Course ID:017303
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. Pre-require: SDC 151 with a C or higher grade. Co-require: SDC 153 or consent of instructor. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

SDC 153(1) Course ID:017304
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. Pre-require: SDC 151 with a C or higher grade. Co-require: SDC 152. Practicum: 1 credit hour (60-90 contact hours).
Components: Practicum
Attributes: Technical
SFC 161(1) Course ID:017375
Life Coach Practicum
Provides applied experience in life coaching, in a college/ university, school, community agency, or other relevant setting, or in self-employment as a solopreneur, applying knowledge and skills gained from SFC 160. Students will conduct coaching that meets the current experience requirements of the International Coach Federation (ICF) for the Associate Certified Coach (ACC) credential, and maintain a log of these contacts using the ICF Coaching Log: a minimum of 100 hours of coaching experience with at least eight clients following the start of SFC 160. Two observed coaching sessions with instructor feedback (including at least one written feedback report) are also a part of the course, to ensure continued development of coaching skills. Course includes seven group mentoring hours and three individual mentoring hours focused on the ICF Core Competencies. Pre-Requisite: SFC 160 with a C or higher. Lecture 1 credit (90 contact hours).

Components: Lecture
Attributes: Technical

SED Special Education

SED 101(3) Course ID:00923
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).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

SED 102(3) Course ID:00804
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. Pre-requisite: SED 101. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

SED 203(3) Course ID:000530
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. Pre-requisite: SED 102. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

SED 204(3) Course ID:00883
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. Pre-requisite: SED 203. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Foreign Language, Cultural Studies

SET Small Engine Repair

SET 298(2) Course ID:002832
Practicum
Practicum provides supervised on-the-job work experience related to the student’s education objectives. Students participating in practicum do not receive compensation. Pre-requisite: Permission of Instructor. Practicum: 2 credits (150 contact hours).

Components: Practicum

SFA Safety and First Aid

SFA 100(1) Course ID:002034
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).

Components: Lecture
Attributes: Technical

SFA 101(3) Course ID:004735
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).

Components: Lecture
Attributes: Technical

SMT Surveying

SMT 110(3) Course ID:002035
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).

Components: Lecture
Attributes: Technical

SMT 130(3) Course ID:006733
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).

Components: Lecture
Attributes: Technical

SMT 160(3) Course ID:002038
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. Pre-requisite: SMT 110, or Instructor Consent. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

SMT 210(3) Course ID:006734
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. Pre-requisite: SMT 110. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

SMT 220(3) Course ID:004438
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. Co-requisite: SMT 160. Laboratory: 3 credits (90 contact hours).

Components: Laboratory
Attributes: Technical

SMT 230(3) Course ID:006735
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 plans, preservation of survey evidence, surveyor as expert witness, liability, and professionalism in surveying. Pre-requisite: SMT 110. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

SMT 270(3) Course ID:002041
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. Pre-requisite: SMT 230, or Instructor Consent. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: Technical

SMT 280(4) Course ID:004436
Introduction to GIS and GPS
This course provides an overview of the principles and practices of Geographic Information Systems (GIS) and Global Positioning Systems (GPS). The GIS portion of the course will deal with issues of spatial data models, database design, introductory and intermediate GIS operations, and case studies of real world GIS applications. The GPS portion of the course focuses on GPS technology, software applications. Lecture: 3 credits (45 contact hours); Laboratory: 1 credit (45 contact hours).

Components: Lecture
Attributes: Technical

SMT 290(3) Course ID:004435
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).

Components: Lecture
Attributes: Technical

SMT 292(1 - 6) Course ID:004471
Instructor Consent Required

Special Topics
Various topics will be addressed. Laboratory: 1 - 6 credits (45 - 270 contact hours). Pre-requisite: Permission of Instructor.

Components: Laboratory
Attributes: Technical

SOC Sociology

SOC 101(3) Course ID:00920
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).

Components: Lecture
Attributes: SB - Social Behavior Science

SOC 151(3) Course ID:008844
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. Pre-requisite: SOC 101 or PSPS 110 or Consent of Instructor. Lecture: 3 credits (45 contact hours).

Components: Lecture
Attributes: SB - Social Behavior Science
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<th>Course ID</th>
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<th>Credits</th>
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<td>SOC 220(3) The Community</td>
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<td>SOC 250(3) Sociology of Popular Culture</td>
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<td>SPA 210(3) Spanish Grammar and Syntax</td>
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SUR 100(12) Course ID:002046
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, obstetric with attendant specialty equipment, abdominal incisions, wound closures, and standard precaution skills. 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 130. 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.
Components: Lecture
Attributes: Technical

SUR 101(1) Course ID:002047
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 the scrubbed and circulating technologist during a surgical procedure. If prereq., the student must achieve a grade of “C” or greater. Pre-requisite: Minimum “C” grade in [BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (BIO 225 or BIO 226 or BIO 227 or BIO 118). Pre-requisite OR Co-requisite: SUR 130, SUR 100 or SUR 101 and SUR 110. 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. Laboratory: 1 credit (90 contact hours).
Components: Laboratory
Attributes: Technical

SUR 102(3) Course ID:017647
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 the scrubbed and circulating technologist during a surgical procedure. 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). Pre-requisite OR Co-requisite: SUR 130, SUR 100 or SUR 101 and SUR 110. 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. Laboratory: 3 credits (135 contact hours).
Components: Laboratory
Attributes: Technical

SUR 103(1) Course ID:002048
Surgical Technology Supplemental Lab
Provides opportunity for supplemental practice 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 the scrubbed and circulating technologist during a surgical procedure. All prerequisites must be achieved with a grade of “C” or greater. Pre-requisite: [BIO 130 or BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (BIO 225 or BIO 226 or BIO 227 or BIO 118). Pre-requisite OR Co-requisite: SUR 130, SUR 101. 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. Laboratory: 1 credit (45 contact hours).
Components: Laboratory
Attributes: Technical

SUR 109(3) Course ID:005375
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 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 biocidal science and identifying information resources needed for surgical technology 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 credits (45 contact hours).
Components: Lecture

SUR 110(9) Course ID:005470
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, obstetrical with attendant specialty equipment, 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: Admission to Surgical Technology program or consent of Program Coordinator and SUR 109 and AHS 115. Co-requisite: SUR 102 and SUR 125. Pre-requisite OR Co-requisite 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: 9 credits (135 contact hours).
Components: Lecture

SUR 125(2 - 3) Course ID:002049
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. Pre-requisite: Minimum “C” grade in SUR 102. 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. Co-requisite: SUR 100 or (SUR 100 and 110). Clinical: 2.0 - 3.0 credits (120 - 180 contact hours).
Components: Clinical
Attributes: Technical

SUR 130(2) Course ID:002050
Principles of Surgical Pharmacology
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 mathematical skills, a thorough knowledge of the systems of measurement, and conversion and application of skills to perform dosage calculations. Provides information related to medications in common use in the surgical setting. Pre-requisite: Admission to Surgical Technology Program; 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). Pre-requisite OR Co-requisite: SUR 102, SUR 100 and SUR 125. Pre-requisite OR Co-requisite 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: 2 credits (30 contact hours).
Components: Lecture
Attributes: Technical

SUR 200(9) Course ID:002051
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. Pre-requisite: Minimum grade of “C” in [SUR 200 or (SUR 202 and SUR 201)]. Lecture: 9 credits (135 contact hours).
Components: Lecture
Attributes: Technical

SUR 201(11) Course ID:017648
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 Co-requisite: Minimum grade of “C” in SUR 202 and SUR 201. Practicum: 2.0 credits (120 contact hours).
Components: Practicum
Attributes: Technical

SUR 280(5) Course ID:004246
Department Consent Required
Surgical Anatomy
Provides accurate information about the structure and function of the human body. Intended for those who are pursuing a career as a Surgical First Assistant. Pre-requisite: Surgical Technologist or CNOR. Co-requisite: SUR 284 & SUR 295. Lecture: 5.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

SUR 282(3) Course ID:004247
Perioperative Bioscience
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. Pre-requisite: Program admission and student must be a certified Surgical Technologist or an RN with operating room experience. Student must present documentation of certification. Pre-requisite: SUR 280 & SUR 284 & SUR 295. Co-requisite: SUR 296. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical
TA Theatre

TA 195(1 - 3) Course ID:004554
Instructor Consent Required
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.
Components: Laboratory, Lecture
Attributes: Other

TA 264(3) Course ID:002268
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.
Components: Laboratory, Lecture
Attributes: Other

TEC Technical Communication

TEC 200(3) Course ID:002073
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. Pre-requisite: Placement in college level writing or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Same As Offering: TEC 200
Attributes: Other

TEC 200(3) Course ID:002073
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. Pre-requisite: Placement in college level writing or Consent of Instructor. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Same As Offering: TEC 200
Attributes: Other

TES Teaching English Speakers

TES 100(3) Course ID:017378
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. Pre-requisite: ENG 102. 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

TES 101(3) Course ID:017379
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. Pre-requisites: TES 100, ANT 160, COM 254. 3 credits (45 contact hours).
Components: Lecture

TES 102(3) Course ID:017380
TESOL Methods & Practice
Surveys current theory and practice in teaching English to non-native speakers with focus 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. Pre-requisites: ANT 160, COM 254, TES 100. 3 credits (45 contact hours).
Components: Lecture
Attributes: Other

THA Theatre

THA 101(3) Course ID:000925
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).
Components: Lecture
Attributes: AH - Arts and Humanities

THA 126(3) Course ID:000774
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; Lab: 2.0 credit hours.
Components: Laboratory, Lecture
Attributes: Other

THA 127(3) Course ID:002264
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.
Components: Laboratory, Lecture
Attributes: Other

THA 141(3) Course ID:006781
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).
Components: Laboratory, Lecture
Attributes: Other, Pilot Course

THA 150(3) Course ID:002265
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).
Components: Lecture
Attributes: Technical

THA 190(1) Course ID:000031
Instructor Consent Required
Production Practicum
Provides study and practice of production techniques through rehearsal and performance. Practicum: 1.0 credit (45 contact hours).
Components: Practicum
Attributes: Technical

THA 191(1) Course ID:002266
Instructor Consent Required
Performance Practicum
Provides study and practice of acting and directing through rehearsal and performance. Practicum: 1.0 credit hour (45 contact hours).
Components: Practicum
Attributes: Other

THA 193(1) Course ID:0015597
Performance Practicum
Provides study and practice of acting and directing through rehearsal and performance. Practicum: 1.0 credit (45 contact hours).
Components: Practicum
Attributes: Other

THA 196(3) Course ID:004032
Instructor Consent Required
Summer Theatre Workshop
Instructor Consent Required
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 apprentices in a Summer Theatre program. Pre-requisite: Acceptance by audition or selection by director/college staff. Lab: 1.0 - 3.0 credit hours (45 - 125 contact hours).
Components: Laboratory
Attributes: Technical

THA 200(3) Course ID:003810
Introduction to Dramatic Literature
Provides a study of representative dramatic literature from Greek Antiquity to the present. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: AH - Arts and Humanities

THA 203(3) Course ID:004433
Acting for the Camera
Includes a fundamental approach to auditions and acting for the camera. Pre-requisite: THA 126. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical
Course content is designed to familiarize students with the purpose of the program is to prepare individuals as time and distance to deliver healthcare services. Lecture: 2.0 credit hours (30 contact hours). Laboratory: 1.0 credit hour (15 contact hours).

Components: Laboratory, Lecture
Attributes: Other

THA 227(3) Course ID:002267

Acting III: Scene Study (STYS)
Introduces the actor to a performance style other than realism while continuing to develop the actor's skills in analysis and rehearsal. Pre-requisite: THA 226 or Consent of Instructor. Lecture: 2.0 credit hours (30 contact hours). Lab: 1.0 contact hour (15 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

THA 230(3) Course ID:015598

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, and rolls will be covered. Lecture: 3.0 credits (45 contact hours).

Components: Lecture
Attributes: Other

THA 250(3) Course ID:006782

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).

Components: Laboratory, Lecture
Attributes: Technical

THA 283(3) Course ID:000111

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).

Components: Lecture
Attributes: AH - Arts and Humanities

TLH Telehealth Technician Assistant

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. Pre-requisite: CDL Permit. Lecture/Lab: 6 credits (150 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

UST Unmanned Systems Technology

UST 100(3) Course ID:017195
Intro to Unmanned Systems Technology
Examines 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).

Components: Lecture
Attributes: Technical

UST 101(1) Course ID:017196
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).

Components: Lecture
Attributes: Technical

UST 105(3) Course ID:017197
Unmanned Systems Safety and Regulations
Examines 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).

Components: Lecture
Attributes: Technical

UST 170(3) Course ID:017199
Drone Media Applications
Utilizes small unmanned systems to record events related to photography and real estate. Pre-requisite: UST 107 or Consent of Instructor. Lecture: 3 credit hours (45 contact hours).

Components: Lecture
Attributes: Technical

UST 200(4) Course ID:017306
Drone Fabrication and Repair
Introduces drone fabrication, including safety principals, component selection, healing applications, and basic measurements using the metric system. Emphasizes designing, constructing, testing, troubleshooting, and repairing of drones. Pre-requisite: College Ready in all areas. Pre-requisite or Co-requisite: UST 100. Lecture: 3 credits (45 contact hours). Lab: 1 credit (30 contact hours).

Components: Laboratory, Lecture
Attributes: Technical

UST 210(2) Course ID:017588
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).

Components: Lecture
Attributes: Technical

UST 211(2) Course ID:017589
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).

Components: Lecture
Attributes: Technical

UST 220(2) Course ID:017200
First Responder Applications
Examines 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. Pre-requisite: UST 107 or Consent of Instructor. Lecture: 2 credit hours (30 contact hours).

Components: Lecture
Attributes: Technical

UST 221(1) Course ID:017201
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. Pre-requisite: UST 107 or Consent of Instructor. Lecture: 1 credit hour (15 contact hours).

Components: Lecture
Attributes: Technical

UST 290(1 - 3) Course ID:017203
UST Flight Mastery
Develops 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 contact hours (30-90 contact hours).

Components: Laboratory
Attributes: Technical

UST 291(1 - 3) Course ID:017614
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. Pre-requisite: UST 100 or Consent of Instructor. Pre-requisite or Co-requisite: UST 107 or Consent of Instructor. Lecture: 1-3 credits (15-45 contact hours).

Components: Lecture
Attributes: Technical

UST 295(1 - 6) Course ID:017204
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. Pre-requisite: UST 107 or Consent of Instructor. Laboratory: 1-6 credit hours (30-180 contact hours).

Components: Laboratory
Attributes: Technical

UST 299(1) Course ID:017202
UST Capstone Studies
Creates employment related documents, demonstrates proper interviewing skills, and explores employment and careers in the unmanned systems technology area. Pre-requisite: UST 107 or Consent of Instructor. Lecture: 1 credit hour (15 contact hours).

Components: Lecture
Attributes: Technical
VCA 105(3)  
Course ID: 016768  
**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).  
Components: Lecture  
Attributes: Technical

VCA 106(3)  
Course ID: 002113  
**Creative Typographical Design**  
Explores the use of type as a major element of design to solve visual communication problems. Includes the use of layout markers to creatively manipulate type forms and produce interesting, attractive type-only designs. Lecture: 3 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 108(3)  
Course ID: 002110  
**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 color perception and psychology; color harmonies and schemes using color wheels; RGB, CMYK, Pantone and ICC Profiles; and color correction. Students must receive a letter grade of “C” or better. Lecture: 3.0 credits (45 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 120(3)  
Course ID: 002116  
**Digital Photography I**  
Introduces the skills and techniques to capture and process digital photographs. Emphasizes basic digital camera operations and lighting techniques. Includes proper techniques to import and organize photographs. Introduces basic Photoshop skills to manipulate and enhance digital photographs. Includes discussions on appropriate resolutions and file formats. Students must receive a letter grade of “C” or better. Lecture: 3.0 credits (90 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 131(3)  
Course ID: 016774  
**Digital Photography II**  
Explores advanced skills and techniques to capture digital photographs using various camera functions and lenses. Includes proper scanning techniques and file formats. Explores advanced skills in Adobe Photoshop to manipulate photographs for interesting compositions. Introduces RAW shooting and Camera RAW in Photoshop. Explores proper presentation skills for professional photography displays. Students must receive a final grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: VCA 120 and VCC 166. Lecture/Lab: 3.0 credits (90 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 132(3)  
Course ID: 000201  
**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 or magazine article), editorials, advertising, and books. Uses a variety of media from traditional media to digital media to create professional illustrations as elements of advertising. Students must receive a letter grade of “C” or better. Lecture/Lab: 3.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 151(3)  
Course ID: 005382  
**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).  
Components: Laboratory, Lecture  
Attributes: Technical

VCA 152(3)  
Course ID: 005383  
**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 Co-requisite: VCA 160 and VCC 166 with a grade of C or better. Lecture: 2.0 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).  
Components: Laboratory, Lecture  
Attributes: Technical

VCA 156(3)  
Course ID: 000203  
**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).  
Components: Integrated Laboratory, Integrated Lecture  
Attributes: Technical

VCA 161(3)  
Course ID: 000207  
**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. Pre-requisite: VCA 160 with a grade of C or better or consent of instructor. Lecture: 3.0 credits (60 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 163(3)  
Course ID: 017580  
**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).  
Components: Integrated Laboratory, Integrated Lecture  
Attributes: Technical

VCA 164(3)  
Course ID: 017581  
**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. Pre-requisite or Co-requisite: VCA 163 or VCA 120 with a grade of “C” or better. Integrated Lecture/Lab: 3 credits (60 contact hours).  
Components: Integrated Laboratory, Integrated Lecture  
Attributes: Technical

VCA 170(3)  
Course ID: 000212  
**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).  
Components: Lecture  
Attributes: Computer Literacy, Technical

VCA 171(3)  
Course ID: 005395  
**Advertising Design II**  
Explores basic to intermediate skills in electronic publishing, design layout, type composition, and prepress for printing and publishing applications. Pre-requisite: VCA 170 with a grade of C or better or Consent of Instructor. Lecture: 2 credits (30 contact hours). Laboratory: 1 credit (30 contact hours).  
Components: Laboratory, Lecture  
Attributes: Technical

VCA 173(3)  
Course ID: 017582  
**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. Pre-requisite or Co-requisite: VCC 150 or VCC 125. Integrated Lecture/Lab: 3 credits (60 contact hours).  
Components: Integrated Laboratory, Integrated Lecture  
Attributes: Technical

VCA 174(3)  
Course ID: 017583  
**Publication Design**  
Explores basic to intermediate skills in electronic publishing, design layout, type composition, and prepress for printing and publishing applications. Pre-requisite or Co-requisite: VCC 150 or VCC 125. Integrated Lecture/Lab: 3 credits (60 contact hours).  
Components: Laboratory, Lecture  
Attributes: Technical

VCA 240(3)  
Course ID: 000213  
**Package Design**  
Explores the development of brand identity as it relates to packaging. Introduces concepts, theories, terminology, design, and production of hard and soft wall three-dimensional packaging and product labels. Emphasizes creative problem solving and legal requirements for the packaging industry. Students must receive a letter grade of “C” or better. Pre-requisite: VCC 125 and VCC 110. Lecture: 3.0 credits (90 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 251(3)  
Course ID: 005384  
**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: VCA 251 with a grade of C or better or Consent of Instructor. Pre-requisite Or Co-requisite: VCA 160 with a grade of C or better or Consent of Instructor. Lecture: 2 credits (30 contact hours). Laboratory: 1.0 credit (30 contact hours).  
Components: Laboratory, Lecture  
Attributes: Technical

VCA 252(3)  
Course ID: 005385  
**Digital Filmmaking IV**  
Provides training in multiple-person video production with an emphasis on Film-Style video production, story telling, TV commercials, and documentaries. Pre-requisite: VCA 251 with a grade of C or better or Consent of Instructor. Lecture: 2.0 credits (30 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 260(4)  
Course ID: 000208  
**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. Pre-requisite: VCA 161 with a grade of C or better or consent of instructor. Lecture/Lab: 4.0 credits (90 contact hours).  
Components: Lecture  
Attributes: Technical

VCA 261(4)  
Course ID: 000209  
**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. Pre-requisite: VCA 260 with a grade of “C” or better or consent of instructor. Lecture/Lab: 4.0 credits (90 contact hours).  
Components: Lecture  
Attributes: Technical
VCA 263(3) Course ID:017584
Product Photography
Applies principles and techniques with emphasis on digital color photographic illustrations captured in the studio. Begins use of lens perspectives controls on the 35mm digital view camera. Includes problem solving through assigned projects. Pre-requisite or Co-requisite: VCA 120 or VCA 162 and VCA 163 with a grade of “C” or better. Integrated Lecture/Lab: 3 credits (60 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

VCA 264(3) Course ID:017585
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. Pre-requisite or Co-requisite: VCA 120 or VCA 162 and VCA 163 with a grade of “C” or better. Integrated Lecture/Lab: 3 credits (60 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

VCA 270(4) Course ID:000214
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. Pre-requisite: VCA 171 with a grade of C or greater or Consent of Instructor. Lecture: 2 credits (30 contact hours); Laboratory: 2 credits (60 contact hours/30:1 ratio).
Components: Laboratory, Lecture Attributes: Technical

VCA 271(4) Course ID:000215
Advertising Design IV
Extends VCA 270 to include creation of a professional portfolio. Pre-requisite: VCA 270 with a grade of C or greater or Consent of Instructor. Lecture: 2 credits (30 contact hours); Laboratory: 2 credits (60 contact hours/30:1 ratio).
Components: Laboratory, Lecture Attributes: Technical

VCA 273(3) Course ID:017586
Corporate Design
Creates and develops a total corporate identity emphasizing relationships between adequate research and development of appropriate concepts for a company image. Pre-requisite: VCA 173 and VCA 174 with a grade of “C” or better. Integrated Lecture/Lab: 3 credits (60 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

VCA 274(3) Course ID:017587
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. Students must receive a letter grade of “C” or better. Pre-requisite: VCA 173 and VCA 174 with a grade of “C” or better. Integrated Lecture/Lab: 3 credits (60 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

VCA 280(3) Course ID:002126
Instructor Consent Required
Professional Portfolio Development
Introduces students to proper assembly of a professional portfolio and presentation skills. Students will 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 exhibit. Students must receive a letter grade of “C” to successfully complete this course. Pre-requisite: Permission of Instructor. Lecture: 1.0 credit (15 contact hours). Lab: 2.0 credits (75 contact hours/37.5:1 ratio).
Components: Laboratory, Lecture Attributes: Technical

VCA 290(3) Course ID:000205
Instructor Consent Required
Folio Seminar
Prepares advanced design and photography 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: Consent of Instructor.
Components: Lecture Attributes: Technical

VCA 298(2 - 6) Course ID:000210
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. Pre-requisite: VCA 280, VCA 261 or VCA 271 with a grade of C or greater or Consent of Instructor. Lecture: 1 credits (15 contact hours) Lab/Practicum: 3 credits (150 contact hours/50:1 ratio)
Components: Laboratory, Lecture Attributes: Technical

VCC 100(3) Course ID:004455
Introduction to Visual Communication
Introduces the concepts, vocabulary, and processes used in relation to visual communication. Includes various disciplines such as advertising and design, multimedia, and printing. Identifies career paths and specific job skills within the visual communication field. Students must receive a letter grade of “C” or better. Lecture: 3 credits (45 contact hours).
Components: Lecture Attributes: Technical

VCC 106(3) Course ID:016769
Typography
Explores the use of type as a major element of design. Students become skilled in selecting appropriate type styles and fonts for a variety of media. Provides experience in using type as a creative tool to produce interesting, type-only designs. Applies elements and principles of design. 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).
Components: Lecture Attributes: Technical

VCC 110(3) Course ID:002111
Design Concepts
Explores elements and principles of design to develop skills in producing creative ideas and designs for various media forms. Apply the design process to advertising and marketing strategies that includes legal issues, media strategies, and customer behavior. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite Or Co-requisite: VCC 200. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

VCC 125(3) Course ID:006859
Computer Graphics I
Introduces students to computer technologies that are specific to the visual communication industry and fulfills the digital literacy requirement. Develops primary skills using computer software applications for page layout, illustration, and digital imaging. Students must complete with a final grade of “C” or better to advance in all Visual Communication courses. Pre-requisite Or Co-requisite: VCC 200. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

VCC 135(3) Course ID:017194
Photo Editing for Photography
Explores Adobe Lightroom and Adobe Photoshop techniques needed to edit photographs. Explore the differences and similarities of Lightroom and Photoshop and how you can use them together. Develop the skills needed as a photographer to edit photographs after sessions. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Integrated Lecture/Lab: 3 credits (90 contact hours).
Components: Integrated Laboratory, Integrated Lecture Attributes: Technical

VCC 150(3) Course ID:004475
Mac Basics
Provides an introduction to Apple/Mac computer technology. Emphasizes industry specific needs, including hardware and software. Presents basic uses of the Internet, email, file management and computer ethics. This course fulfills the computer/digital literacy requirement. Students must receive a letter grade of “C” or better. Basic keyboarding recommended. Pre-requisite: RDG 020. Lecture: 3.0 credits (45 contact hours).
Components: Lecture Attributes: Digital Literacy

VCC 166(3) Course ID:001510
Photoshop Basics
Develops skills to correct, enhance, and manipulate digital photographic images. Emphasizes image intensification, and prepare images for the print and web using Adobe Photoshop. Introduce raster graphics and their use in the visual communication industry. Create raster graphics from simple to increasingly complex images and designs will be the focus of this course. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: Digital Literacy or VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

VCC 200(3) Course ID:002124
Illustrator Basics
Develops skills to create illustrations and vector graphics for a variety of media using Adobe Illustrator. Introduce vector graphics and their use in the visual communication industry. Create vector graphics from simple to increasingly complex designs will be the focus of this course. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: Digital Literacy or VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

VCC 210(3) Course ID:002125
Advanced Computer Illustration
Develops skills to create illustrations and vector graphics for a variety of media using Adobe Illustrator. Introduce vector graphics and their use in the visual communication industry. Create vector graphics from simple to increasingly complex designs will be the focus of this course. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: Digital Literacy or VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

VCC 214(3) Course ID:005731
Production Design I
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. Pre-requisite: VCC 110 & VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical

VCC 216(3) Course ID:006860
Production Design II
Introduces students to the technologies of pad printing and screen printing. 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 or a variety of substrates and promotional materials. Students must receive a final grade of “C” or better to advance in all Visual Communication courses. Pre-requisite Or Co-requisite: VCC 110 & VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture Attributes: Technical
VCC 218(3) Course ID:006661
Production Design III
Provides basic knowledge of the steps and procedures used to prepare, troubleshoot, and correct files for digital printing. Provides students with the basic skills to produce and utilize PDF files. Provides knowledge in the importance of proper imposition and page-layout of various publications. Provides knowledge and training of various finishing and binding techniques used in the industry. Students must receive a final grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: VCC 110 & VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

VCC 220(3) Course ID:004473
Instructor Consent Required
InDesign Basics
Develops skills in page design and layout using Adobe InDesign software. Applies concepts and mechanics of page layout to create a variety of publications from single page to multi-page documents. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: Digital Literacy or VCC 125. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

VCC 230(3) Course ID:004462
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. Pre-requisite: VCC 220. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

VCC 235(3) Course ID:016770
Graphic Design I
Explores the use of elements and principles of design in the creative ideation process. Uses the creative brief process to research, design, and create corporate identities, logos, promotional items, collateral materials and advertising. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: VCC 110 & VCC 215. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

VCC 245(3) Course ID:016771
Graphic Design II
Explores advanced 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. Defines industry standards and specifications for product labels. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: VCC 235. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

VCC 255(3) Course ID:016772
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. Pre-requisite: VCC 110 and VCC 125. Integrated Lecture/ Lab: 3 credits (90 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

VCC 260(3) Course ID:001509
Instructor Consent Required
Computer Graphics II
Provides advanced skills in computer graphics using Adobe InDesign, Photoshop, and Illustrator. Create a variety of complex designs and multi-page documents will be the focus of this course. Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Pre-requisite: VCC 110 and VCC 125 or Permission of Instructor. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

VCC 266(3) Course ID:005142
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. Creation and manipulation of graphics for complex images and designs will be the focus of this course. Students must receive a letter grade of “C” or better. Pre-requisite: VCC 166. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

VCC 270(3) Course ID:005798
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).
Components: Lecture
Attributes: Technical

VCC 285(3) Course ID:017318
Production Design IV
Introduces concepts, vocabulary, and processes used in relation to design and produce vehicle wraps, wall wraps, and other large format graphics. Provides knowledge in the operation of wide format printers, laminators, and vinyl cutters. Covers substrates and laminates for various applications, tools and supplies for preparation and installation of printed graphics, and techniques used to install graphics. Provides students with knowledge and training in design and RIP software used to produce graphics. Students will troubleshoot files and production workflow. Pre-requisite: VCC 110, VCC 125, VCC 214. Integrated Lecture/Lab: 3 credits (90 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

VCC 297(3) Course ID:004469
Instructor Consent Required
Internship
Provides supervised on-the-job work experience related to the student's 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.
Components: Co-Op
Attributes: Technical

VCC 298(3) Course ID:004463
Instructor Consent Required
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.
Components: Practicum
Attributes: Technical

VCM 110(3) Course ID:004453
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).
Components: Lecture
Attributes: Technical

VCM 115(3) Course ID:004452
2-D Animation
Introduces basic computer animation using industry standard software. Uses software to create 2-D animations for various multi-media functions. Students must receive a letter grade of “C” or better. Lecture: 1.0 credit (15 contact hours); Laboratory: 2.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

VCM 125(3) Course ID:015851
Foundations of Video Production
Introduces students to the basics of video production and animation. Includes screenwriting, storyboarding, and planning a video production and animation project. Familiarizes students with video, lighting, and sound equipment. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

VCM 140(3) Course ID:001762
Digital Video
Focuses on the basics of digital video capture, editing, software. Emphasis on planning and creating storyboards for digital video projects from conception to final product. Students must receive a letter grade of “C” or better. Lecture/Lab: 3.0 credits (90 contact hours).
Components: Lecture
Attributes: Technical

VCM 150(3) Course ID:017076
Audio Production 1
Introduces basic technical skills, recording equipment, and vocabulary for audio production. Develops skills in evaluation and listening to audio recordings. Utilizes industry software for audio recording and editing. Lecture: 3 credits (45 contact hours).
Components: Lecture
Attributes: Technical

VCM 205(3) Course ID:004454
Introduction to HTML
Introduces the creation of Web sites using hypertext markup language (HTML) and cascading style sheets (CSS). Students must receive a letter grade of “C” or better to advance in all Visual Communication courses. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

VCM 210(3) Course ID:004344
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 Co-requisite: VCM 115, Lecture: 1.0 credit (15 contact hours), Lab: 2.0 credits (75 contact hours).
Components: Lecture
Attributes: Technical

VCM 215(3) Course ID:005143
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 movies. Students must receive a letter grade of “C” or better. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

VCM 220(3) Course ID:001767
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. Students must receive a letter grade of “C” or better. Pre-requisite: VCC 110 and VCC 125. Lecture : 1.0 credit (15 contact hours). Lab: 2.0 credits (75 contact hours/37.5 lab).
Components: Laboratory, Lecture
Attributes: Technical
VET 112(4) Course ID:007428
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. Pre-requisite: VET 110, 112, and 114. Co-requisite: VET 130. Clinical: 2.0 credits (96 contact hours).
Components: Clinical
Attributes: Technical

VET 210(3) Course ID:007430
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. Pre-requisite: VET 120 and VET 130. Co-requisite: VET 220 and VET 230. Lecture: 3.0 credits (45 contact hours).
Components: Lecture
Attributes: Technical

VET 220(5) Course ID:007431
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. Pre-requisite: VET 120 and VET 130. Co-requisite: VET 210 and VET 230. Lecture/Lab: 5.0 credits (135 contact hours).
Components: Lecture
Attributes: Technical

VET 235(4) Course ID:017409
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. Pre-requisite: VET 210 and VET 220. Integrated Lecture/Lab: 4 credits (120 contact hours).
Components: Integrated Laboratory, Integrated Lecture
Attributes: Technical

VET 245(5) Course ID:007433
Clinical Procedures III
Emphasizes laboratory 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. Pre-requisite: VET 210, VET 220, and VET 235. Co-requisite: AGR 280 and VET 250. Lecture/Lab: 5.0 credits (135 contact hours).
Components: Lecture
Attributes: Technical

VET 250(5) Course ID:007434
Clinical Practicum II
Provides practical experience in veterinary hospitals, clinics, and/or related facilities; students complete an average of 16 hours per week. Pre-requisite: VET 210, VET 220, and VET 230. Co-requisite: VET 240. Clinical: 5.0 credits (240 contact hours).
Components: Clinical
Attributes: Technical

WGS 200(5) Course ID:000815
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).
Components: Lecture
Attributes: Cultural Studies, SB - Social Behavior Science

WGS 201(3) Course ID:000921
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).
Components: Lecture
Attributes: Cultural Studies, AH - Arts and Humanities
WLD 120(2) Course ID:004600
Sheltered 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.  
Components: Lecture  
Attributes: Technical

WLD 121(3) Course ID:004578  
Sheltered 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.  
Components: Laboratory  
Attributes: Technical

WLD 123(3) Course ID:004599  
Sheltered Metal Arc Welding Groove with Backing Lab  
Provides laboratory 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.  
Components: Laboratory  
Attributes: Technical

WLD 130(2) Course ID:004579  
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. Co-requisite: WLD 131 or Consent of Instructor. Lecture: 2 credits (30 contact hours).  
Components: Lecture  
Attributes: Technical

WLD 131(3) Course ID:004580  
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. Co-requisite: WLD 130 or Consent of Instructor. Laboratory: 3 credits (90 contact hours/30:1 ratio).  
Components: Laboratory  
Attributes: Technical

WLD 133(3) Course ID:004581  
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. Pre-requisite: WLD 130 or Consent of Instructor. Laboratory: 3 credits (90 contact hours/30:1 ratio).  
Components: Laboratory  
Attributes: Technical

WLD 140(2) Course ID:004582  
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).  
Components: Lecture  
Attributes: Technical

WLD 141(3) Course ID:004583  
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. Co-requisite: WLD 140 or Consent of Instructor. Laboratory: 3 credits (90 contact hours/30:1 ratio).  
Components: Laboratory  
Attributes: Technical

WLD 143(3) Course ID:004584  
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. Pre-requisite: WLD 140 or Consent of Instructor. Laboratory: 3 credits (90 contact hours/30:1 ratio).  
Components: Laboratory  
Attributes: Technical

WLD 145(1) Course ID:004586  
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. Pre-requisite: WLD 140 or Consent of Instructor. Laboratory: 1 credit (30 contact hours/30:1 ratio).  
Components: Laboratory  
Attributes: Technical

WLD 147(1) Course ID:004585  
Flux Core Arc Welding Lab  
Acquaints the student with the method of operation and application of the flux cored welding system. Pre-requisite: WLD 140 or Consent of Instructor. Laboratory: 1 credit (30 contact hours/30:1 ratio).  
Components: Laboratory  
Attributes: Technical

WLD 151(2) Course ID:004603  
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).  
Components: Laboratory, Lecture  
Attributes: Technical

WLD 152(5) Course ID:004441  
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).  
Components: Laboratory, Lecture  
Attributes: Technical

WLD 161(1) Course ID:004602  
Submerged Arc Welding Lab  
Designed to provide the student with a working knowledge of SAW principles, 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.  
Components: Laboratory  
Attributes: Technical

WLD 170(2) Course ID:004587  
Blueprint Reading for Welding  
Provides a study of occupational specifically 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 specific includes 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.  
Components: Lecture  
Attributes: Technical

WLD 171(3) Course ID:004588  
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.  
Components: Laboratory  
Attributes: Technical

WLD 181(1) Course ID:004601  
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). Pre-requisite: WLD 140 and 141 or Consent of Instructor.  
Components: Laboratory

WLD 198(1 - 6) Course ID:004573  
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.  
Components: Lecture  
Attributes: Technical

WLD 220(2) Course ID:004589  
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. Co-requisite: WLD 221 or Consent of Instructor. Lecture: 2 credits (30 contact hours).  
Components: Lecture  
Attributes: Technical

WLD 221(3) Course ID:004590  
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.  
Components: Laboratory  
Attributes: Technical

WLD 225(3) Course ID:004591  
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-but plate welding using SMAW. Lab: 3 credits (90 contact hours/30:1 ratio). Pre-requisite: WLD 120 and 121 or Consent of Instructor.  
Components: Laboratory  
Attributes: Technical

WLD 227(3) Course ID:004592  
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. Fillets 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.  
Components: Laboratory  
Attributes: Technical

WLD 229(3) Course ID:004593  
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.  
Components: Laboratory  
Attributes: Technical
WLD 235(3) Course ID:004594
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.
Components: Laboratory
Attributes: Technical

WLD 237(3) Course ID:004595
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.
Components: Laboratory
Attributes: Technical

WLD 239(1) Course ID:005310
Orbital Tube Welding
Familiarizes students with the orbital weld system, basic setup, operation, and safety. Pre-requisite: WLD 130 & WLD 131 or Permission of Instructor. Laboratory: 1 credit (30 contact hours).
Components: Laboratory
Attributes: Technical

WLD 245(3) Course ID:004604
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.
Components: Laboratory
Attributes: Technical

WLD 247(3) Course ID:004597
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.
Components: Laboratory
Attributes: Technical

WLD 251(1 - 6) Course ID:004608
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 Co-requisite: WLD 140/141, or consent of instructor. Lab: 1-6 credit hours (30-180 contact hours).
Components: Laboratory
Attributes: Technical

WLD 253(1) Course ID:004607
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).
Components: Laboratory
Attributes: Technical

WLD 298(1 - 6) Course ID:004443
Instructor Consent Required
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.
Components: Practicum
Attributes: Technical

WLD 299(1 - 6) Course ID:004598
Instructor Consent Required
Cooperative Education Program
Provides supervised on-the-job work experience related to the student’s educational objectives. Pre-requisite: Consent of Instructor. Co-Op: Varies.
Components: Co-Op
Attributes: Technical

WMT 200(4) Course ID:002193
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).
Components: Lecture
Attributes: Enrichment Course Other, Technical

WPP Workplace Principles

WPP 200(3) Course ID:002193
Workplace Principles

WPP 2001(1) Course ID:016787
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).
Components: Lecture
Attributes: Enrichment Course Other