Course Descriptions

All Lord Fairfax Community College course descriptions are a part of the Virginia Community College System Master Course file (http://courses.vccs.edu/mcf/), which is standardized statewide. Students should refer to individual faculty course syllabi for more specific details.

Course Credits

The credit value for each course is indicated after the title in the course description. One credit is equivalent to one collegiate semester hour credit.

Each semester hour of credit given for a course is based on approximately one academic hour (50 minutes) of formalized, structured instructional time in a particular course for 15 weeks, or the equivalent in other time periods or instructional format. This may consist of lectures, out-of-class study, laboratory, or combinations thereof as follows:

1. One hour of lecture (including lecture, seminar, discussion, or other similar experiences) per week for 15 weeks plus an examination period = 1 collegiate semester-hour credit.
2. Two or three hours, depending on the academic discipline, of laboratory (including laboratory, clinical training, supervised work experience, coordinated internship, or other similar experience) per week for 15 weeks plus an examination period (1 hour) = 1 collegiate semester-hour credit.
3. One to five credits, with variable hours of attendance, may be earned in general usage Coordinated Internship, Seminar and Project, and Supervised Study.

Course Prerequisites

If any prerequisites are required before enrolling in a course, the College identifies these prerequisites in the course description. Courses in special sequences (usually identified by the numerical I-II) require that prior courses or their equivalent be completed before enrolling in a course unless special permission is obtained from the Vice President of Instruction or the Instruction Departments.

Course Offerings

The College reserved the right to develop schedules of courses offered based on demand or other factors.

Course Numbering System

The following is a description of Lord Fairfax Community College’s system for logically and meaningfully numbering courses.

Level of Courses

01-09
These courses will be used for Development Studies. Credits earned in these courses are not applicable toward associate degree programs. However, upon approval by the Deans of Instruction, some developmental courses may provide credit appropriate for diploma or certificate programs. Students may re-register for these courses in subsequent semesters in accordance with state policy.

10-99
These courses are basic occupational courses for diploma and certificate programs. The credits earned in these courses are applicable toward diploma and certificate programs. These credits are not applicable toward an associate degree.

100-199
These courses are freshman-level courses applicable toward associate degree, diploma, and certificate programs.

200-299
These courses are sophomore-level courses applicable toward associate degree, diploma, and certificate programs.

General Usage Courses

These courses are used by inserting the appropriate department prefix for the desired course and by adding relevant descriptive information in the course title. Credit value is variable, from one to five hours. In instances where work, clinical, or field experience is used, the work/credit ratio may not exceed one credit for each five contact hours per week (or the equivalent in other time periods). All of these courses may be repeated for credit.

90, 190, and 290 Coordinated Internship
95, 195, and 295 Topics
93, 193, 293 Studies
96, 196, and 296 On-Site Training
98, 198, and 298 Seminar and Project
99, 199, and 299 Supervised Study

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Course Descriptions

**Accounting (ACC)**

ACC 211 Principles of Accounting I (3 Cr.)
Presents accounting principles and their application to various businesses. Covers the accounting cycle, income determination and financial reporting. Studies services, merchandising and includes internal controls. A laboratory corequisite (ACC 213) may be required as identified by the college. Lecture 3 hours per week. Generally offered all semesters.

ACC 212 Principles of Accounting II (3 Cr.)
Continues Principles of Accounting I (ACC 211) with emphasis on the application to partnerships, corporations and the study of financial analysis. Includes an introduction to cost and managerial accounting. A laboratory corequisite (ACC 214) may be required as identified by the college. Prerequisite: ACC 211. Lecture 3 hours per week. Generally offered all semesters.

ACC 215 Computerized Accounting (3 Cr.)
Introduces the computer in solving accounting problems. Focuses on operation of computers. Presents the accounting cycle and financial statement preparation in a computerized system and other applications for financial and managerial accounting. Prerequisite or corequisite: ACC 212 or equivalent. Lecture 3 hours per week. Generally offered spring and summer.

ACC 221 Intermediate Accounting I (3 Cr.)
Covers accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities and investments. Introduces various accounting approaches and demonstrates the effect of these approaches on the financial statement users. Prerequisite: ACC 212 or equivalent. Lecture 3 hours per week. Generally offered fall.

ACC 222 Intermediate Accounting II (3 Cr.)
Continues accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long-term liabilities and investments. Prerequisite: ACC 221 or equivalent. Lecture 3 hours per week. Generally offered spring.

ACC 225 Managerial Accounting (3 Cr.)
Presents the preparation, analysis and interpretation of accounting data for managerial decision-making. Includes cost control, capital budgeting and pricing decisions. Prerequisite: ACC 212 or equivalent. Lecture 3 hours per week. Generally offered spring.

ACC 231 Cost Accounting I (3 Cr.)
Studies cost accounting and reporting as applied to job order, process and standard cost accounting systems. Includes cost control and other topics. Prerequisite: ACC 212 or equivalent. Lecture 3 hours per week. Generally offered fall.

ACC 261 Principles of Federal Taxation I (3 Cr.)
Presents the study of federal taxation as it relates to individuals and related entities. Includes tax planning, compliance and reporting. Lecture 3 hours per week. Generally offered fall.

ACC 262 Principles of Federal Taxation II (3 Cr.)
Presents the study of federal taxation as it is related to partnerships, corporations and other tax entities. Includes tax planning, compliance and reporting. Lecture 3 hours per week. Generally offered spring.

ACC 298 Seminar and Project (1-5 Cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours. Generally offered spring.

**Administration of Justice (ADJ)**

ADJ 100 Survey of Criminal Justice (3 Cr.)
Presents an overview of the United States criminal justice system; introduces the major system components--law enforcement, judiciary, and corrections. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 105 The Juvenile Justice System (3 Cr.)
Presents the evolution, philosophy, structures and processes of the American juvenile delinquency system; surveys the right of juveniles, dispositional alternatives, rehabilitation methods and current trends. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 107 Survey of Criminology (3 Cr.)
Surveys the volume and scope of crime; considers a variety of theories developed to explain the causation of crime and criminality. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 116 Special Enforcement Topics (3 Cr.)
Considers contemporary issues, problems and controversies in modern law enforcement. Lecture 3 hours per week. Offered periodically.
ADJ 118 Crisis Intervention and Critical Issues (3 Cr.)
Addresses basic problems involved in crisis intervention and current critical issues in law enforcement and the administration of justice; emphasizes practical approaches to discover and implement solutions. Lecture 3 hours per week. Offered periodically.

ADJ 120 Introduction to Courts (3 Cr.)
Presents an overview of the American judiciary—the federal and 50 state judicial systems—with emphasis on criminal court structures, functions, and personnel; surveys the judicial system in Commonwealth of Virginia. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 130 Introduction to Criminal Law (3 Cr.)
Surveys the general principles of American criminal law, the elements of major crimes, and the basic step of prosecution procedure. Generally offered fall and spring.

ADJ 133 Ethics and the Criminal Justice Professional (3 Cr)
Examines ethical dilemmas pertaining to the criminal justice system, including those in policing, courts and corrections. Focuses on some of the specific ethical choices that must be made by the criminal justice professional. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 138 Defensive Tactics (2 Cr.)
Surveys and demonstrates the various types of non-lethal force tools and tactics for use by criminal justice personnel in self-defense, arrest, search, restraint and transport of those in custody. Lecture 2 hours per week. Offered periodically.

ADJ 140 Introduction to Corrections (3 Cr.)
Focuses on societal responses to the offender. Traces the evolution of practices based on philosophies of retribution, deterrence and rehabilitation. Reviews contemporary correctional activities and their relationships to other aspects of the criminal justice system. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 145 Corrections and the Community (3 Cr.)
Studies and evaluates the relationships and interactions between correctional organizations and free society. Focuses on the shared responsibility of the community and corrections agencies to develop effective programs for management and treatment of criminal offenders. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 161 Introduction to Computer Crime (3 Cr.)
Provides a basic introduction to the nature of computer crimes, computer criminals, relevant law investigative techniques, and emerging trends. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 162 Introduction to Sex Crimes (3 Cr.)
Provides a basic introduction to sex crimes. Covers relevant law, investigative techniques, cybersex crimes and criminals, application of criminal investigative analysis, and future trends. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 164 Case Studies in Murder/Violent Crime (3 Cr.)
Teaches the philosophy and history of gangs in America through the eyes of law enforcement, courts, corrections and the citizenry. Examines methods by which law enforcement defines the gang problem and intervenes in gang membership. Explores gang globalization; differentiates street gangs and terrorist cells. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 171 Forensic Science I (3-4 Cr.)
Introduces student to crime scene technology, procedures for sketching, diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. Part I of II. Lecture 3-4 hours. Laboratory 0-3 hours. Total 3-6 hours per week. Generally offered fall.

ADJ 172 Forensic Science I (3-4 Cr.)
Introduces student to crime scene technology, procedures for sketching, diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. Part II of II. Lecture 3-4 hours. Laboratory 0-3 hours. Total 3-6 hours per week. Generally offered spring.

ADJ 201 Criminology (3 Cr.)
Studies current and historical data pertaining to criminal and other deviant behavior. Examines theories that explain crime and criminal behavior in human society. Lecture 3 hours per week. Offered periodically.
ADJ 211-212 Criminal Law, Evidence and Procedures I-II (3 Cr.) (3 Cr.)
Teaches the elements of proof for major and common crimes and the legal classification of offenses. Studies the kinds, degrees and admissibility of evidence and its presentation in criminal proceedings with emphasis on legal guidelines for methods and techniques of evidence acquisition. Surveys the procedural requirements from arrest to final disposition in the various American court systems with focus on the Virginia jurisdiction. Lecture 3 hours per week. Offered periodically.

ADJ 227 Constitutional Law for Justice Personnel (3 Cr.)
Surveys the basic guarantees of liberty described in the U.S. Constitution and the historical development of these restrictions on government power, primarily through U.S. Supreme Court decisions. Review rights of free speech, press, assembly, as well as criminal procedure guarantees (to counsel, jury trial, habeas corpus, etc.) as they apply to the activities of those in the criminal justice system. Lecture 3 hours per week. Offered periodically.

ADJ 232 Domestic Violence (3 Cr.)
Surveys historical issues that have affected family violence. Examines current trends in the context of the criminal justice system. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 236 Principles of Criminal Investigation (3 Cr.)
Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search, collecting, handling and preserving of evidence. Lecture 3 hours per week. Offered periodically.

ADJ 237 Advanced Criminal Investigation (3 Cr.)
Introduces specialized tools and scientific aids used in criminal investigation. Applies investigative techniques to specific situations and preparation of trial evidence. Prerequisite: ADJ 236 or divisional approval. Lecture 3 hours per week. Generally offered fall and spring.

ADJ 247 Criminal Behavior (3 Cr.)
Introduces and evaluates the concepts of normal and abnormal behavior. Focuses on the psychological and sociological aspects of criminal and other deviant behavior patterns. Lecture 3 hours per week. Generally offered fall and spring.

Administrative Support Technology (AST)

AST 101 Keyboarding I (3 Cr.)
Teaches the alpha/numeric keyboard with emphasis on correct techniques, speed and accuracy. Teaches formatting of basic personal and business correspondence, reports and tabulation. Lecture 3 hours per week. Generally offered all semesters.

AST 102 Keyboarding II (3 Cr.)
Develops keyboarding and document production skills with emphasis on preparation of specialized business documents. Continues skill building for speed and accuracy. Prerequisite: AST 101. Lecture 3 hours per week. Generally offered all semesters.

AST 107 Editing/Proofreading Skills (3 Cr.)
Develops skills essential to creating and editing business documents. Covers grammar, spelling, diction, punctuation, capitalization and other usage problems. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 101, AST 102 or AST 141. Lecture 3 hours per week. Generally offered fall.

AST 141 Word Processing I (3 Cr.)
Teaches creating and editing documents, including line and page layouts, columns, fonts, search/replace, cut/paste, spell/thesaurus and advanced editing and formatting features of word processing software. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 101 or AST 102. Lecture 3 hours per week. Generally offered summer and fall.

AST 142 Word Processing II (3 Cr.)
Teaches advanced software applications. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102 or AST 141. Lecture 3 hours per week. Generally offered spring.

AST 205 Business Communications (3 Cr.)
Teaches techniques of oral and written communications. Emphasizes writing and presenting business-related materials. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered all semesters.

AST 206 Professional Development (3 Cr.)
Develops professional awareness in handling business and social situations. Emphasizes goal setting, critical thinking, decision-making and employment skills. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered spring and summer.
Course Descriptions

AST 215 Medical Keyboarding (3 Cr.)
Develops decision-making skills, speed and accuracy in preparation of medical documents with emphasis on meeting office requirements. Prerequisite: AST 102. A laboratory corequisite (AST 216) may be required. Lecture 3 hours per week. Generally offered summer.

AST 230 Introduction to Office Technology (3 Cr.)
Introduces principles, methods and techniques involved in office technology. Emphasizes word processing, microcomputer equipment and software. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered spring.

AST 232 Microcomputer Office Applications (3 Cr.)
Teaches production of business documents using word processing, databases and spreadsheets. Emphasizes document production to meet business and industry standards. Prerequisite: AST 101, AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered summer.

AST 234 Records and Database Management (3 Cr.)
Teaches filing and records management procedures using microcomputer database software. Incorporates both manual and electronic methods for managing information. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 101, AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered fall.

AST 236 Specialized Software Applications (3 Cr.)
Teaches specialized integrated software applications on the microcomputer. Emphasizes document production to meet business and industry standards. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 101, AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered summer.

AST 243 Office Administration I (3 Cr.)
Develops an understanding of the administrative support role and the skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes the development of critical-thinking, problem-solving and job performance skills in a business office environment. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 101, AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered fall.

AST 244 Office Administration II (3 Cr.)
Enhances skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes administrative and supervisory role of the office professional. Includes travel and meeting planning, office budgeting and financial procedures, international issues and career development. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102, AST 141 or AST 142. Lecture 3 hours per week. Generally offered spring.

AST 245 Medical Machine Transcription (3 Cr.)
Develops machine transcription skills, integrating operation of transcribing equipment with understanding of medical terminology. Emphasizes dictation techniques and accurate transcription of medical documents in prescribed formats. Reading prerequisite and ENG 111 placement required. Prerequisites: AST 102, BIO 100 or PNE 155 or BIO 141 & 142 and HIM 111 and HIM 112. Lecture 3 hours per week. Generally offered spring.

AST 253 Advanced Desktop Publishing I (3 Cr.)
Introduces specific desktop publishing software. Teaches document layout and design, fonts, typetstyles, style sheets and graphics. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 101, AST 102 or AST 141. Lecture 3 hours per week. Generally offered fall.

AST 254 Advanced Desktop Publishing II (3 Cr.)
Presents advanced features of desktop publishing software, culminating in the layout and design of complex multi-page documents. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 253. Lecture 3 hours per week. Generally offered spring.

AST 257 WP Desktop Publishing (3 Cr.)
Uses word processing software to teach advanced document preparation. Reading prerequisite and ENG 111 placement required. Prerequisites: AST 101 and AST 141. Lecture 3 hours per week. Generally offered fall.

AST 260 Presentation Software (3 Cr.)
Teaches creation of slides including use of text, clip art and graphs. Includes techniques for enhancing presentations with on-screen slide shows as well as printing to transparencies and handouts. Incorporates use of sound and video clips. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102 or AST 141. Lecture 3 hours per week. Generally offered spring.

AST 265 Legal Office Procedures I (3 Cr.)
Introduces general office procedures used in law offices and courts. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 102 or AST 141. Lecture 3 hours per week. Generally offered summer.

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AST 266 Legal Office Procedures II (3 Cr.)
Develops skills necessary to provide organizational and technical support in a legal setting. Emphasizes administrative and supervisory duties. Reading prerequisite and ENG 111 placement required. Prerequisite: AST 265. Lecture 3 hours per week. Generally offered summer.

AST 271 Medical Office Procedures I (3 Cr.)
Covers medical office procedures, records management, preparation of medical reports, and other medical documents. Reading prerequisite and ENG 111 placement required. Prerequisite AST 102. Lecture 3 hours per week. Occasionally offered summer.

Air Conditioning and Refrigeration (AIR)
AIR 121 Air Conditioning and Refrigeration I (3 Cr.)
Studies refrigeration theory, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, metering devices. Provides laboratory application of refrigerators and freezers. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall.

AIR 122 Air Conditioning and Refrigeration II (3 Cr.)
Studies refrigeration theory, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, metering devices. Provides laboratory application of refrigerators and freezers. Prerequisite AIR 121. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered spring.

AIR 134 Circuit and Controls I (3 Cr.)
Presents circuit diagrams for air conditioning units, reading and drawing of circuit diagrams, types of electrical controls. Includes analysis of air conditioning circuits, components, analysis and characteristics of circuits and controls, testing and servicing, introduces electricity for air conditioning which includes circuit elements, direct current circuits and motors, single and three-phase circuits and motors, power distribution systems and protective devices. Studies the electron and its behavior in passive and active circuits and components. Demonstrates electronic components and circuits as applied to air conditioning system. Lecture 2-3 hours per week. Laboratory 2-6 hours per week. Total 4-9 hours per week. Generally offered fall.

AIR 154 Heating Systems I (3 Cr.)
Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Lecture 2-3 hours per week. Laboratory 2-6 hours per week. Total 4-8 hours per week. Generally offered summer.

AIR 155 Heating Systems II (3 Cr.)
Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Prerequisite: AIR 154. Lecture 2-3 hours per week. Laboratory 2-6 hours per week. Total 4-8 hours per week. Generally offered spring.

American Sign Language (ASL)
ASL 101-102 American Sign Language I-II (3 Cr.) (3 Cr.)
Introduces the fundamentals of American Sign Language (ASL) used by the Deaf Community, including basic vocabulary, syntax, finger spelling and grammatical non manual signals. Focuses on communicative competence. Develops gestural skills as a foundation for ASL enhancement. Introduces cultural knowledge and increases understanding of the Deaf Community. Lecture 3-4 hours. Laboratory 0-2 hours. Total 3-5 hours per week. ASL 101- generally offered fall; ASL 201 generally offered spring.

ASL 115 Finger Spelling and Number Use in ASL (2 Cr.)
Provides intensive practice in comprehension and production of finger spelled words and numbers with emphasis on clarity and accuracy. Focuses on lexicalized finger spelling and numeral incorporation as used by native users of American Sign Language. Prerequisite ASL 101 or permission of instructor. Lecture 2 hours per week. Offered periodically.

ASL 125 History and Culture of the Deaf Community I (3 Cr.)
Presents an overview of various aspects of deaf culture, including educational and legal issues. Prerequisite: ENG 111. Lecture 3 hours per week. Offered periodically.
ASL 150 Working with Deaf and Hard-of-Hearing People (2 Cr.)
Explores career options for serving Deaf/hard-of-hearing people and/or for using American Sign Language skills in a career. Examines interests, skills, and educational assessments. Investigates job market viability via the Internet and professional periodicals. Develops opportunities for students to network with professionals in the field of deafness. Lecture 2 hours per week. Offered periodically.

ASL 201-202 American Sign Language III-IV (3 Cr.) (3 Cr.)
Develops vocabulary, conversational competence and grammatical knowledge with a total immersion approach. Introduces increasingly complex grammatical aspects including those unique to ASL. Discusses culture and literature. Contact with the deaf community is encouraged to enhance linguistic and cultural knowledge. Lecture 3-4 hours per week. Laboratory 0-2 hours per week. Total 3-5 hours per week. ASL 201 generally offered fall; ASL 202 generally offered spring.

Architecture (ARC)
ARC 130 Introduction to Materials and Methods of Construction (3 Cr.)
Introduces the physical properties and characteristics of building materials and methods of construction. Includes review of residential and light commercial wood-frame construction techniques and an introduction to steel and concrete structural systems. Lecture 3 hours per week. Generally offered fall.

ARC 221 Architectural CAD Applications Software I (3 Cr.)
Teaches the principles and techniques of architectural drawing practices through the use of architecture specific CAD software. Utilizes the commands and features of the software to generate drawings that emphasize architectural design and structural systems. Requires knowledge of AutoCad 2D software. Prerequisite: EGR 110. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Generally offered spring.

ARC 222 Architectural CAD Applications Software II (3 Cr.)
Uses advanced features of architectural CAD software to teach students to develop working drawings and details that adhere to the practices and techniques of architectural drawing principles. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Generally offered fall.

Art (ART)
ART 100 Art Appreciation (3 Cr.)
Introduces art from prehistoric times to the present day. Describes architectural styles, sculpture, photography, printmaking, and painting techniques. Lecture 3 hours per week. Offered periodically.

ART 101-102 History and Appreciation of Art I-II (3 Cr.) (3 Cr.)
Presents the history and interpretation of architecture, sculpture and painting. Begins with prehistoric art and follows the development of western civilization to the present. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

ART 103 History of Far Eastern Art I (3 Cr.)
Surveys the history of Far Eastern art from the prehistoric period to the present. Part I focuses on the art of India and Southeast Asia. Part II focuses on the art of China, Japan, and Korea. Emphasizes architecture, painting and sculpture with some instruction in printmaking and decorative arts. Lecture 3 hours per week. Generally offered fall and spring.

ART 114 General Art (3 Cr.)
Introduces art to the student without previous training. Provides studio exercises in drawing, painting, and two- and three-dimensional design. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Generally offered fall and spring.

ART 121-122 Drawing I-II (3 Cr.) (3 Cr.)
Develops basic drawing skills and understanding of visual language through studio instruction/lecture. Introduces concepts such as proportion, space, perspective, tone and composition as applied to still life, landscape and the figure. Uses drawing media such as pencil, charcoal, ink wash and color media. Includes field trips and gallery assignments as appropriate. ART 121 is a prerequisite for ART 122. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 5 hours per week. Generally offered all semesters.

ART 131-132 Fundamentals of Design I-II (4 Cr.) (4 Cr.)
Explores the concepts of two- and three-dimensional design and color. May include field trips as required. Art 131 is a prerequisite for ART 132. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week. Generally offered fall and spring.
ART 138 Figure Drawing (3 Cr.)
Develops drawing skills for the beginning and experienced students. Explores a broad range of drawing problems dealing with the human figure in costume using various media and techniques. **Prerequisite:** ART 121 or divisional approval. Lecture 2 hours per week. Studio instruction 3 hours per week. Total 5 hours per week. Offered periodically.

ART 153-154 Ceramics I-II (3 Cr.) (3 Cr.)
Presents problems in the design and production of functional and non-functional ceramic works. Includes hand building the potter’s wheel and clays and glazes. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week. Generally offered fall and spring.

ART 154 Functional Ceramics (3 Cr.)
Explores the design and production of functional ceramics, including hand building and use of the wheel. **Prerequisite:** ART 154 or instructor approval. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week. Offered periodically.

ART 235 Functional Ceramics (3 Cr.)
Explores the design and production of functional ceramics, including hand building and use of the wheel. **Prerequisite:** ART 154 or instructor approval. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week. Offered periodically.

ART 236 Sculptural Ceramics (3 Cr.)
Explores the design and production of sculptural ceramics, including hand building and use of the wheel. **Prerequisite:** ART 154 or instructor approval. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week. Offered periodically.

ART 241-242 Painting I-II (3 Cr.) (3 Cr.)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. **Prerequisite:** ART 122 or instructor approval. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 5 hours per week. Offered periodically.

ART 243-244 Watercolor I-II (3 Cr.) (3 Cr.)
Presents abstract and representational painting in watercolor with emphasis on design, color, composition, technique and value. **Prerequisite:** ART 131 or instructor approval. Lecture 2 hours per week. Studio instruction 2 hours per week. Total 4 hours per week. Generally offered fall and spring.

ART 271-272 Printmaking I-II (3 Cr.) (3 Cr.)
Introduces the student to the full range of printmaking techniques. Includes woodcut, silkscreen, etching and lithography. Provides historical perspective on printmaking. Lecture 2 hours per week. Studio instruction 3 hours per week. Total 5 hours per week. Offered periodically.

ART 283-284 Computer Graphics I-II (3 Cr.) (3 Cr.)
Utilizes microcomputers and software to produce computer graphics. Employs techniques learned to solve studio projects which reinforce instruction and are appropriate for portfolio use. **Reading prerequisite required.** Lecture 1 hour per week. Studio instruction 4 hours per week. Total 5 hours per week. Generally offered fall and spring.

ART 287 Portfolio and Resume Preparation (1-4 Cr.)
Focuses on portfolio preparation, resume writing and job interviewing for students. Recommended for final semester program students. **Requires instructor’s approval.** Lecture 1 hour. Studio instruction 0-4 hours. Total 1-6 hours per week. Generally offered fall and spring.

ART 295 - Topics In (1-5 Cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours. Offered periodically.

**Biology (BIO)**

BIO 100 Basic Human Biology (3 Cr.)
Presents basic principles of human anatomy and physiology. Discusses cells, tissues, and selected human systems. **Reading prerequisite required.** Lecture 3 hours per week. Generally offered all semesters.

BIO 101-102 General Biology I-II (4 Cr.) (4 Cr.)
Explores fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Introduces the diversity of living organisms, their structure, function and evolution. **Reading prerequisite required.** BIO 101 prerequisite to BIO 102. Lecture 3 hours per week. Recitation and laboratory 3 hours per week. Total 6 hours per week. Generally offered fall and spring.

BIO 141-142 Human Anatomy and Physiology I-II (4 Cr.) (4 Cr.)
Integrates anatomy and physiology of cells, tissues, organs and systems of the human body. Integrates concepts of chemistry, physics and pathology. BIO 141 prerequisite to BIO 142. **Reading prerequisite required.** Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Generally offered all semesters.
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BIO 145 Human Anatomy and Physiology for the Health Sciences (4-5 Cr.)
Introduces human anatomy and physiology primarily to those planning to pursue an AAS degree in nursing. Covers basic chemical concepts, cellular physiology, as well as the anatomy and physiology of human organ systems. Lecture 3-4 hours. Laboratory 3 hours. Total 6-7 hours per week. Generally offered all semesters.

BIO 150 Introductory Microbiology (4 Cr.)
Studies the general characteristics of microorganisms. Emphasizes their relationships to individual and community health. Reading prerequisite required. Lecture 3 hours per week. Recitation and laboratory 3 hours per week. Total 6 hours per week. Generally offered all semesters.

BIO 295 - Topics In (1-5 Cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours. Generally offered spring.

Building (BLD)
BLD 231 Construction Estimating I (3 Cr.)
Focuses on materials take-off and computing quantities from working drawings and specifications. Includes methods for computing quantities of concrete, steel, masonry, roofing and excavation. Deals with pricing building components, materials and processes, as well as transportation and handling costs, mark-up discount procedures, equipment cost and labor rates. Lecture 3 hours per week. Generally offered fall and spring.

Business Management and Administration (BUS)
BUS 100 Introduction to Business (3 Cr.)
Presents a broad introduction to the functioning of business enterprise within the U.S. economic framework. Introduces economic systems, essential elements of business organization, production, human resource management, marketing, finance and risk management. Lecture 3 hours per week. Generally offered fall and spring.

BUS 111 Principles of Supervision I (3 Cr.)
Teaches the fundamentals of supervision, including the primary responsibilities of the supervisor. Introduces factors relating to the work of supervisors and subordinates. Covers aspects of leadership, job management, work improvement, training and orientation, performance evaluation and effective employee/ supervisor relationships. Lecture 3 hours per week. Generally offered fall and spring.

BUS 116 Entrepreneurship (3 Cr.)
Presents the various steps considered necessary when going into business. Includes areas such as product-service analysis, market research evaluation, setting up books, ways to finance startup, operations of the business, development of business plans, buyouts versus starting from scratch and franchising. Uses problems and cases to demonstrate implementation of these techniques. Lecture 3 hours per week. Generally offered fall.

BUS 165 Small Business Management (3 Cr.)
Identifies management concerns unique to small businesses. Introduces the requirements necessary to initiate a small business and identifies the elements compromising a business plan. Presents information establishing financial and administrative controls, developing a marketing strategy, managing business operations and the legal and government relationships specific to small businesses. Lecture 3 hours per week. Generally offered spring.

BUS 200 Principles of Management (3 Cr.)
Teaches management and the management functions of planning, organizing, leading and controlling. Focuses on application of management principles to realistic situations managers encounter as they attempt to achieve organizational objectives. Lecture 3 hours per week. Generally offered spring.

BUS 205 Human Resource Management (3 Cr.)
Introduces employment, selection and placement of personnel, usage levels and methods, job descriptions, training methods and programs and employee evaluation systems. Includes procedures for management of human resources and uses case studies and problems to demonstrate implementation of these techniques. Lecture 3 hours per week. Generally offered spring.

BUS 236 Communication in Management (3 Cr.)
Introduces the functions of communication in management with emphasis on gathering, organizing and transmitting facts and ideas. Teaches the basic techniques of effective oral and written communication. Lecture 3 hours per week. Generally offered fall.

BUS 241 Business Law I (3 Cr.)
Presents a broad introduction to the legal environment of U.S. business. Develops a basic understanding of contract law and agency and government regulation. Lecture 3 hours per week. Generally offered fall.
BUS 242 Business Law II (3 Cr.)
Develops a basic understanding of the Uniform Commercial Code, business organization bankruptcy and personal and real property. Lecture 3 hours per week. Generally offered spring.

BUS 285 Current Issues in Management (3 Cr.)
Designed as a capstone for management majors, the course is designed to provide an integrated perspective of current issues and trends in business management. Contemporary issues will be explored in a highly participatory class environment. Lecture 3 hours per week. Generally offered spring.

Chemistry (CHM)
CHM 101-102 General Chemistry I-II (4 Cr.) (4 Cr.)
Emphasizes experimental and theoretical aspects of inorganic, organic and biological chemistry. Discusses general chemistry concepts as they apply to issues within our society and environment. Designed for the non-science major. Reading prerequisite required. Prerequisite for CHM 101 is competence in MTE 1-6. CHM 101 prerequisite to CHM 102. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Generally offered all semesters.

CHM 110 Survey of Chemistry (3 Cr.)
Introduces the basic concepts of general, organic and biochemistry with emphasis on their applications to other disciplines. No previous chemistry background required. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

CHM 111-112 College Chemistry I-II (4 Cr.) (4 Cr.)
Explores the fundamental laws, theories and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. Reading prerequisite required. Prerequisite for CHM 111 is competence in MTE 1-6. CHM 111 prerequisite to CHM 112. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Generally offered fall and spring.

CHM 241-242 Organic Chemistry I-II (3 Cr.) (3 Cr.)
Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses and typical reactions. Emphasizes reaction mechanisms. Prerequisite: CHM 111-112. CHM 241 prerequisite to CHM 242. Recommended corequisite: CHM 243-244. Lecture 3 hours per week. CHM 241 generally offered fall and spring; CHM 242 generally offered spring.

CHM 245-246 Organic Chem. Lab. I-II (2 Cr.) (2 Cr.)
Includes qualitative organic analysis. Shall be taken concurrently with CHM 241 and CHM 242. Lecture 1 hour per week. Laboratory 3 hours per week. Total 4 hours per week. CHM 245 generally offered fall; CHM 246 generally offered spring.

CHM 260 Introductory Biochemistry (3 Cr.)
Explores fundamentals of biological chemistry. Includes study of macromolecules, metabolic pathways, and biochemical genetics. Prerequisite CHM 112 or divisional approval. Lecture 3 hours per week. Generally offered spring.

Childhood Development (CHD)
CHD 118 Language Arts for Young Children (3 Cr.)
Presents techniques and methods for encouraging the development of language and perception skills in young children. Stresses improvement of vocabulary, speech and methods to stimulate discussion. Surveys children’s literature, examines elements of quality storytelling and story reading and stresses the use of audiovisual materials. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered spring.

CHD 119 Introduction to Reading Methods (3 Cr.)
Focuses on promoting language and literacy skills as the foundation for emergent reading. Emphasizes phonetic awareness and alphabetic principles, print awareness and concepts, comprehension and early reading and writing. Addresses strategies for intervention and support for exceptional children and English Language Learners. NOTE: This course replaces CHD 117. Placement test recommendation for ENG 111 required. Prerequisite: CHD 118. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Generally offered fall.

CHD 120 Intro. to Early Childhood Education (3 Cr.)
Introduces early childhood development through activities and experiences in nursery, pre-kindergarten, kindergarten and primary programs. Investigates classroom organization and procedures and use of classroom time and materials, approaches to education for young children, professionalism and curricular procedures. Lecture 3 hours per week. Generally offered fall and spring, periodically summer.
CHD 167 CDA Theories and Applications: Portfolio (2-3 Cr.)
Supports the CDA candidate in organizing and developing a portfolio for presentation at local assessment team meeting. Lecture 2-3 hours per week. Generally offered spring.

CHD 145 Teaching Art, Music and Movement to Children (3 Cr.)
Provides experiences in developing the content, methods, and materials for directing children in art, music, and movement activities. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall.

CHD 146 Math, Science, and Social Studies for Children (3 Cr.)
Provides experiences in developing the content, methods, and materials for directing children in math, science, and social studies activities. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Generally offered fall.

CHD 165 Observation and Participation in Early Ch/Primary Settings (3 Cr.)
Observes and participates in early childhood settings such as child care centers, pre-schools, Montessori schools or public schools in Kindergarten through 3rd grade levels. Students spend one hour each week in a seminar session in addition to 60 clock hours in the field. May be taken again for credit. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week. Generally offered spring, periodically fall.

CHD 166 Infant and Toddler Programs (3 Cr.)
Examines the fundamentals of infant and toddler development, including planning and implementing programs in group care. Emphasizes meeting physical, social, emotional, and cognitive needs: scheduling, preparing age-appropriate activities, health and safety policies, record keeping, and reporting to parents. Lecture 3 hours per week. Generally offered spring.

CHD 205 Guiding the Behavior of the Children (3 Cr.)
Explores positive ways to build self-esteem in children and help them develop self-control. Presents practical ideas for encouraging pro-social behavior in children and emphasizes basic skills and techniques in classroom management. Lecture 3 hours per week. Generally offered spring and summer.

CHD 210 Introduction to Exceptional Children (3 Cr.)
Reviews the history of education for exceptional children. Studies the characteristics associated with exceptional children. Explores positive techniques for managing behavior and adapting materials for classroom use. Lecture 3 hours per week. Generally offered fall and summer.

CHD 215 Models of Early Childhood Education Programs (3 Cr.)
Studies and discusses the various models and theories of early childhood education programs including current trends and issues. Presents state licensing and staff requirements. Lecture 3 hours per week. Generally offered fall.

CHD 216 Early Childhood Programs, School, and Social Change (3 Cr.)
Explores methods of developing positive, effective relations between staff and parents to enhance the developmental goals of home and school. Reviews current trends and issues in education, describes symptoms of homes in need of support, investigates non-traditional family and cultural patterns, and lists community resources. Lecture 3 hours per week. Generally offered fall.

CHD 265 Adv. Observation and Participation, in Early Ch/Primary Settings (3 Cr.)
Observes and participates in early childhood settings such as child care centers, pre-schools, Montessori schools, or public school settings (kindergarten through third grade). Emphasizes planning and implementation of appropriate activities and materials for children. Students will spend one hour each week in a seminar session in addition to sixty (60) clock hours in the field. May be taken again for credit. Prerequisite: CHD 165. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week. Generally offered spring, periodically fall.

CHD 270 Admin. of Childcare Programs (3 Cr.)
Examines the skills needed for establishing and managing early childhood programs. Emphasizes professionalism and interpersonal skills, program planning, staff selection and development, creating policies, budgeting, and developing forms for recordkeeping. Lecture 3 hours per week. Generally offered spring.

CHD 298 Seminar and Project (1-5 Cr.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours. Generally offered spring.

Civil Engineering Technology (CIV)
CIV 171 Surveying I (3 Cr.)
Introduces surveying equipment, procedures and computations including adjustment of instruments, distance measurement, leveling, angle measurement, traversing, traverse adjustments, area computations and introduction to topography. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered fall.
Course Descriptions

CIV 172 Surveying II (3 Cr.)
Introduces surveys for transportation systems including the preparation and analysis of topographic maps, horizontal and vertical curves, earthwork and other topics related to transportation construction. Prerequisite: CIV 171. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered spring.

CIV 226 Soil Mechanics Laboratory (1 Cr.)
Introduces practical soil sampling; classification of unified, ASTM and AASHTO specifications; laboratory testing of soils to predict engineering performance. Laboratory 2 hours per week. Generally offered spring.

CIV 295 Sustainable Building and Site Design (3 Cr.)
Introduces basic concepts and approaches to sustainable design of both structures and building sites. Focuses on LEED (Leadership in Energy and Environmental Design) criteria for green buildings and sites. Covers energy, hydrological, material selection/use/disposal, and environment (indoor and outdoor) quality aspects of designing for sustainability. Specific topics may include site selection and development, water use reduction, energy use reduction, green power, material reuse and recycling, material emissions, lighting issues, thermal comfort and control among others. Prerequisites are ARC 130 and MTH 115 or equivalents. Lecture 3 hours per week. Generally offered spring.

CIV 295B Solar Energy Fundamentals (3 Cr.)
Presents the fundamental concepts that establish solar energy as a viable energy source. Includes heat flow concepts such as radiation, convection, and conduction heat transfer and basic fluid flow concepts. Covers material characteristics that allow for storage of solar energy and basic electrical concepts that allow for direct conversion of solar energy to electricity. Relates these fundamental concepts to actual products in solar energy systems. Incorporates relevant demonstrations into a lecture format. Prerequisites/corequisites MTH 115 and ARC 130 or equivalents. Lecture 3 hours per week. Generally offered fall.

CIV 295C Solar Energy Installations (2 Cr.)
Focuses on installations of photovoltaic panels primarily for grid direct solar energy systems. Covers proper site location, sizing, and selection of system components including panel selection, panel orientation, proper wiring, proper grounding, electrical disconnects, inverters, and mounting systems. Electrical codes will be discussed as appropriate and battery based storage systems will be introduced. Incorporates relevant demonstrations into a lecture format. Prerequisites: MTH 115 and CIV 295B. Lecture 2 hours per week. Generally offered spring.

CIV 295D Solar Energy Installation Lab (1 Cr.)
Covers the installation of several photovoltaic grid direct systems including mounting PV panels, wiring the system (including grounding), and commissioning and decommissioning the system. Safety issues and code issues will be included. Rack mounted, ballast, and pole mount systems will be installed. A pre-laboratory sizing exercise and other pre-lab work may be required. Prerequisite: CIV295C. Laboratory hours equivalent to 3 hours per week. Generally offered spring.

Communication Studies and Theatre (CST)

CST 100 Principles of Public Speaking (3 Cr.)
Applies theory and principles of public address with emphasis on preparation and delivery. Prerequisite: placement testing approval for ENG 111. Lecture 3 hours per week. Generally offered all semesters.

CST 110 Intro to Speech Communication (3 Cr.)
Examines the elements affecting speech communication at the individual, small group and public communication levels with emphasis on practice of communication at each level. Prerequisite: placement testing approval for ENG 111. Lecture 3 hours per week. Generally offered all semesters.

CST 116 Speech Workshop (1-6 Cr.)
Enables work in competitive speech activities such as debate, oratory, impromptu speaking, prose and poetry reading and rhetorical criticism. Prerequisite: placement testing approval for ENG 111. May be repeated for credit. Variable hours per week. Generally offered fall and spring.

CST 126 Interpersonal Communication (3 Cr.)
Teaches interpersonal communication skills for both daily living and the world of work. Includes perception, self-concept, self-disclosure, listening and feedback, nonverbal communication, attitudes, assertiveness and other interpersonal skills. Lecture 3 hours per week. Offered periodically.

CST 130 Intro to the Theatre (3 Cr.)
Surveys the principles of drama, the development of theatre production and selected plays to acquaint the student with various types of theatrical presentation. Lecture 3 hours per week. Offered periodically.

CST 131-132 Acting I-II (3 Cr.) (3 Cr.)
Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units and performance of scenes. Lecture 2 hours per week. Lab 3 hour per week. Total 5 hours per week. Offered periodically.
CST 136 Theatre Workshop (3 Cr.)
Enables students to work in various activities of play production. The student participates in performance, set design, stage carpentry, sound, costuming, lighting, stage-managing, props, promotion, or stage crew. May be repeated for credit. Workshop 3 hours per week. Generally offered fall and spring.

CST 141 Theatre Appreciation I (3 Cr.)
Aims to increase knowledge and enjoyment of theatre. Considers process, style, organization written drama, and performed drama. Part I of II. Lecture 3 hours per week. Offered periodically.

CST 229 Intercultural Communication (3 Cr.)
Emphasizes the influence of culture on the communication process including differences in values, message systems, and communication rules. Lecture 3 hours per week. Offered periodically.

Computer Aid Drafting and Design (CAD)
CAD 165 Architectural Blueprint Reading (3 Cr.)
Emphasizes reading, understanding and interpreting standard types of architectural drawings including plans, elevation, section and details. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered every other year.

CAD 175 Schematics and Mechanical Diagrams (2 Cr.)
Covers interpretation of basic shop drawings, conventional symbols, common electrical and electronics symbols, wiring diagrams, hydraulic and pneumatic symbols, schematic drawings and piping diagrams. Lecture 2 hours per week. Course generally offered fall semester. Generally offered summer.

CAD 241 Parametric Solid Modeling I (3 Cr.)
Focuses on teaching students the design of parts by parametric solid modeling. Topics covered will include, but not limited to, sketch profiles; geometric and dimensional constraints; 3-D features; model generation by extrusion, revolution and sweep; and the creation of 2-D drawing views that include sections, details and auxiliary. Part I of II. Requires knowledge of AutoCad 2D software. Prerequisite: EGR 110. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week. Generally offered spring.

CAD 242 Parametric Solid Modeling II (3 Cr.)
Focuses on teaching students the design of parts by parametric solid modeling. Topics covered will include, but not limited to, sketch profiles; geometric and dimensional constraints; 3-D features; model generation by extrusion, revolution and sweep; and the creation of 2-D drawing views that include sections, details and auxiliary. Part II of II. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week. Generally offered fall.

CAD 280 Design Capstone Project (3 Cr.)
Focuses on design projects developed in independently and in consultation with the Instructor. Topics covered but not limited to, parametric modeling, civil, mechanical piping, architectural applications, structural, electro-mechanical, 3-D Solids, exploration of application software and the integration of CAD/CAM. Prerequisites: CAD 233, MEC 116 and ARC 122, or CAD 211 or 212 and CAD 201 or 199. Lecture 3 hours per week. Offered occasionally, as needed.

Computer Science (CSC)
CSC 201 Computer Science I (4 Cr.)
Introduces algorithm and problem solving methods. Emphasizes structured programming concepts, elementary data structures and the study and use of a high level programming language. Reading prerequisite required. Lecture 4 hours per week. Generally offered fall.

Dental Hygiene(DNH)
DNH 111 Oral Anatomy (2 Cr.)
Studies the morphology and function of the oral structures with emphasis on the primary and permanent dentition, eruption sequence, occlusion and intra-arch relationships. Lecture 2 hours per week. Generally offered fall.

DNH 115 Histology/Head and Neck Anatomy (3 Cr.)
Presents a study of the microscopic and macroscopic anatomy and physiology of the head, neck and oral tissues. Includes embryologic development and histologic components of the head, neck, teeth and periodontium. Lecture 3 hours per week. Generally offered fall.

DNH 120 Management of Emergencies (2 Cr.)
Studies the various medical emergencies and techniques for managing emergencies in the dental setting. Additional practical applications and simulations of emergencies may be conducted to enhance basic knowledge from the one-hour lecture component. Lecture 1-2 hours per week. Generally offered fall.
DNH 130 Oral Radiography for the Dental Hygienist (2 Cr.)
Studies radiation physics, biology, safety and exposure techniques for intra- and extra-oral radiographic surveys. Laboratory provides practice in exposure, processing methods, mounting and interpretation of normal findings. Lecture 1-2 hours per week. Laboratory 3 hours per week. Total 4-5 hours per week. Generally offered fall.

DNH 141 Dental Hygiene I (5 Cr.)
Introduces clinical knowledge and skills for the performance of dental hygiene services; basic skill components, lab manikins and client practice. Lecture 3 hours per week. Clinic 6 hours per week. Total 9 hours per week. Generally offered fall.

DNH 142 Dental Hygiene II (5 Cr.)
Exposes students to instrument sharpening, time management and client education techniques and methods. Provides supervised clinical practice in the dental hygiene clinic with emphasis on developing client treatment and instrument skills. Prerequisite: DNH 141. Lecture 1-2 hours per week. Clinical 9-12 hours per week. Total 11-13 hours per week. Generally offered spring.

DNH 145 General and Oral Pathology (2 Cr.)
Introduces general pathology with consideration of the common diseases affecting the human body. Particular emphasis is given to the study of pathological conditions of the mouth, teeth and their supporting structures. Prerequisite: DNH 113, 114, or 115. Lecture 2 hours per week. Generally offered spring.

DNH 146 Periodontics for the Dental Hygienist (2 Cr.)
Introduces the theoretical and practical study of various concepts and methods used in describing, preventing and controlling periodontal disease. Presents etiology, microbiology, diagnosis, treatment and prognosis of diseases. Lecture 2 hours per week. Generally offered spring.

DNH 150 Nutrition (2 Cr.)
Studies nutrition as it relates to dentistry and general health. Emphasizes the principles of nutrition as applied to the clinical practice of dental hygiene. Lecture 2 hours per week. Generally offered summer.

DNH 190 Coordinated Practice (3 Cr.)
Continues supervised clinical practice in the dental hygiene clinic with emphasis on coordinating didactic and clinical skills, and refining client treatment skills. Introduces special needs clients and treatment modifications. Lecture 2 hours per week. Generally offered summer.

DNH 214 Practical Materials for Dental Hygiene (2 Cr.)
Studies the current technologic advances, expanded functions and clinical/laboratory materials used in dental hygiene practice. Provides laboratory experience for developing skills in the utilization and applications of these technologies and functions. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered fall.

DNH 216 Pharmacology (2 Cr.)
Studies the chemical and therapeutic agents used in dentistry, including their preparation, effectiveness and specific application. Lecture 2 hours per week. Generally offered fall.

DNH 226 Public Health Dental Hygiene I (2 Cr.)
Studies and compares concepts of delivery of health care, applying the public health delivery model. Utilizes epidemiologic methods, research and biostatistics as applied to oral health program planning, implementation and evaluation. Incorporates and applies current health issues and trends. Lecture 2 hours per week. Generally offered fall.

DNH 227 Public Health Dental Hygiene II (1 Cr.)
Applies concepts of public health program planning through student directed community projects with an emphasis on preventative oral health education. Includes development of table clinics, bulletin board and volunteer service in the community. Prerequisite: DNH 226. Laboratory 3 hours per week. Generally offered spring.

DNH 230 Office Practice and Ethics (1 Cr.)
Studies the principles of dental ethics and economics as they relate to the dental hygienist. The course also includes a study of jurisprudence and office procedures. Lecture 1 hour per week. Generally offered spring.

DNH 235-Management of Dental Pain and Anxiety in the Dental Office (2 Cr.)
Provides a study of anxiety and pain management techniques used in dental care. Students will understand the necessary theory to appropriately treat, plan and successfully administer topical anesthesia, local anesthesia, and nitrous oxide/oxygen analgesia. Includes the components of pain, pain control mechanisms, topical anesthesia, local anesthesia and nitrous oxide/oxygen analgesia. Prerequisites: DNH 115, DNH 120 and DNH 216. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. Generally offered fall.
DNH 244 Dental Hygiene IV (5 Cr.)
Introduces advanced skills and the dental hygienist’s role in dental specialties. Includes supervised clinical practice in the dental hygiene clinic and/or off-campus clinical rotations at various community facilities. Emphasizes treatment of clients demonstrating periodontal involvement, stressing application and correlation of knowledge and skills from previous semesters. Prerequisite: DNH 143 or DNH 190. Lecture 1 hour per week. Clinic 12 hours per week. Total 13 hours per week. Generally offered fall.

DNH 245 Dental Hygiene V (5 Cr.)
Exposes student to current advances in dentistry. Includes supervised clinical practice in the dental hygiene clinic and/or off-campus clinical rotations at various community facilities. Emphasis is placed on synthesis of knowledge from previous semesters, treatment of clients with moderate to advanced periodontal involvement and improving clinical speed while maintaining quality in preparation for practice. Prerequisite: DNH 244. Lecture 1 hour per week. Clinic 12 hours per week. Total 13 hours per week. Generally offered spring.

Economics (ECO)
ECO 120 Survey of Economics (3 Cr.)
Presents a broad overview of economic theory, history, development and application. Introduces terms, definitions, policies and philosophies of market economies. Provides some comparison with other economic systems. Includes some degree of exposure to microeconomic and macroeconomic concepts. Prerequisites: Reading and competence in MTE 1-6 required. Lecture 3 hours per week. Offered periodically.

ECO 201 Principles of Macroeconomics (3 Cr.)
Introduces macroeconomics including the study of Keynesian, classical, monetarist principles and theories, the study of national economic growth, inflation, recession, unemployment, financial markets, money and banking, the role of government spending and taxation, along with international trade and investments. Prerequisites: Reading and competence in MTE 1-6 required. Lecture 3 hours per week. Generally offered all semesters.

ECO 202 Principles of Microeconomics (3 Cr.)
Introduces the basic concepts of microeconomics. Explores the free market concepts with coverage of economic models and graphs, scarcity and choices, supply and demand, elasticities, marginal benefits and costs, profits, and production and distribution. Prerequisites: Reading and competence in MTE 1-6 required. Lecture 3 hours per week. Generally offered all semesters.

Education (EDU)
EDU 200 Intro. to Teaching as a Profession (3 Cr.)
Provides an orientation to the teaching profession in Virginia, including historical perspectives, current issues and future trends in education on the national and state levels. Emphasizes information about teacher licensure examinations, steps to certification, teacher preparation and induction programs and attention to critical shortage areas in Virginia. Includes supervised field placement (recommended: 40 clock hours) in a K-12 school. Prerequisite: successful completion of 24 credits of transfer courses. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall and spring.

EDU 235 Health, Safety and Nutrition Education (3 Cr.)
Focuses on the physical needs of children and explores strategies to meet these needs. Emphasizes positive health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases and safety. Places emphasis on the development of food habits and concerns in food and nutrition. Describe symptoms and reporting procedures for child abuse. Lecture 3 hours per week. Generally offered fall and spring.

EDU 254 Teaching Basic Academic Skills to Exceptional Children (3 Cr.)
Develops competencies required to teach readiness and basic skills to children with special needs in private or public school settings. Includes the preparation of lesson plans, instructional units, and individualized Education Programs (IEP’s). Includes child abuse recognition and intervention training. Emphasizes exceptionalities for students ages 2-21 under Public Law 94-142. Familiarizes students with the indicators of effective teaching. Lecture 3 hours per week. Offered periodically.

Electrical Technology (ELE)
ELE 126 Electricity and Shop Power Distribution (2 Cr.)
Teaches basic electricity and shop power distribution systems to acquaint the industrial machine mechanic with the nature and requirements of electrical power and machinery. Includes the nature of electricity, basic DC and AC circuits, power requirements, protection systems, basic measurements and safety precautions. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered spring.
ELE 133-134 Practical Electricity I-II (3 Cr.) (3 Cr.)
Teaches the fundamentals of electricity, terminology, symbols and diagrams. Includes the principles essential to the understanding of general practices, safety and the practical aspects of residential and non-residential wiring and electrical installation, including fundamentals of motors and controls. Pre/Corequisite: MTH 115 or equivalent. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. ELE 133 generally offered fall and spring; ELE 134 generally offered spring.

ELE 135 National Electrical Code – Residential (3 Cr.)
Studies purposes and interpretations of the national electrical code that deals with single and multi-family dwellings, including state and local regulations. Lecture 2-3 hours per week. Laboratory 2-4 hours per week. Total 4-5 hours per week. Generally offered fall.

ELE 137 National Electrical Code – Industrial (3 Cr.)
Provides comprehensive study of the purpose and interpretations of the National Electrical Code that deal primarily with industrial wiring methods, including state and local regulations. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall.

ELE 156 Electrical Control Systems (3 Cr.)
Introduces troubleshooting and servicing electrical controls, electric motors, motor controls, motor starters, relays, overloads, instruments and control circuits. May include preparation of a report as an out-of-class activity. Prerequisite: ELE 159. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered spring.

ELE 159 Electrical Motors (3 Cr.)
Teaches practical applications and fundamentals of A.C. and D.C. machines. Includes the concepts of magnetism and generators used in electrical motor applications. Prerequisite: ELE 126 or 134 or instructor approval. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall.

ELE 190 Coordinated Internship (1-5 Cr.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours. Generally offered all semesters.

ELE 239 Programmable Controllers (3 Cr.)
Deals with installation, programming, interfacing and concepts of trouble shooting programmable controllers. It is highly recommended that students complete ELE 156 or have the instructor’s permission prior to taking ELE 239. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered spring.

Electronics Technology (ETR)
ETR 113 D.C. and A.C. Fundamentals I (3 Cr.)
Studies D.C. and A.C. circuits, basic electrical components, instruments, network theorems and techniques used to predict, analyze and measure electrical quantities. Corequisite: ETR 112 or equivalent. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered spring.

Emergency Medical Services (EMS)
EMS 151 Intro. to Advanced Life Support (4 Cr.)
Prepares the student for Virginia Enhanced certification eligibility and begins the sequence for National Registry Intermediate and/or Paramedic certification. Includes the theory and application of the following: foundations, human systems, pharmacology, overview of shock, venous access, airway management, patient assessment, respiratory emergencies, allergic reaction and assessment based management. Conforms at a minimum to the Virginia Office of Emergency Medical Services curriculum. Corequisite: EMS 170. Lecture 3 hours per week. Laboratory 2 hours per week. Total 5 hours per week. Generally offered spring.

EMS 153 Basic ECG Recognition (2 Cr.)
Focuses on the interpretation of basic electrocardiograms (ECG) and their significance. Includes an overview of anatomy and physiology of the cardiovascular system including structure, function and electrical conduction in the heart. Covers advanced concepts that build on the knowledge and skills of basic dysrhythmia determination and introduction to 12 lead ECG. Lecture 2 hours per week. Generally offered fall.

EMS 155 ALS Medical Care (4 Cr.)
Continues the Virginia Office of Emergency Medical Services Intermediate and/or Paramedic curricula. Includes ALS pharmacology, drug and fluid administration with emphasis on patient assessment, differential diagnosis and management of multiple medical complaints. Includes, but are not limited to conditions relating to cardiac, diabetic, neurological, nontraumatic abdominal pain, environmental, behavioral, gynecology and toxicological disease conditions. Prerequisites: current EMT-B certification, EMS 151 and EMS 153. Lecture 3 hours per week. Laboratory 2 hours per week. Total 5 hours per week. Generally offered spring.
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EMS 157 ALS Trauma Care (3 Cr.)
Continues the Virginia Office of Emergency Medical Services Intermediate and/or Paramedic curricula. Utilizes techniques which will allow the student to utilize the assessment findings to formulate a field impression and implement the treatment plan for the trauma patient. 
Prerequisites: current EMT-B certification and EMS 151. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall.

EMS 159 ALS Special Populations (2 Cr.)
Continues the Virginia Office of Emergency Medical Services Intermediate and/or Paramedic curricula. Focuses on the assessment and management of specialty patients including obstetrical, neonates, pediatric and geriatrics. 
Prerequisites: EMS 151 and EMS 153. Pre or Corequisite EMS 155. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered spring.

EMS 170 ALS Internship I (1-2 Cr.)
 Begins the first in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the emergency department, critical care units, pediatric, labor and delivery, operating room, trauma centers and various advanced life support units. Laboratory 3-6 hours per week. Generally offered spring.

EMS 172 ALS Clinical Internship II (1Cr.)
Continues with the second in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the emergency department, critical care units, pediatric, labor and delivery, operating room and trauma centers. Corequisite: EMS 151. Laboratory 3-6 hours per week. Generally offered spring.

EMS 173 ALS Field Internship II (1 Cr.)
Continues with the second in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. Laboratory 3 hours per week. Generally offered spring.

EMS 196 On-Site Training (1 Cr.)
Specializes in career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the college. Lecture 1 hour per week. Generally offered summer, if needed.

EMS 201 EMS Professional Development (2 Cr.)
 Prepares students for Paramedic certification at the National Registry Level by fulfilling community activism, personal wellness, resource management, ethical considerations in leadership and research objectives in the Virginia Office of Emergency Medical Services Paramedic curriculum. Lecture 2 hours per week. Generally offered fall.

EMS 205 Advanced Pathophysiology (3 Cr.)
Focuses on the pathological processes of disease with emphasis on the anatomical and physiological alterations of the human body by systems. Includes diagnosis and management appropriate to the advanced health care provider in and out of the hospital environment. Lecture 3 hours per week. Generally offered spring.

EMS 207 Advanced Patient Assessment (3 Cr.)
Focuses on the principles of normal and abnormal physical exam. Emphasizes the analysis and interpretation of physiological data to assist in patient assessment and management. Applies principles during the assessment and management of trauma, medical, and specialty patients in laboratory environment. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Generally offered spring.

EMS 209 Advanced Pharmacology (4 Cr.)
Focuses on the principles of pharmacokinetics, pharmacodynamics and drug administration. Includes drug legislation, techniques of medication administration, and principles of math calculations. Emphasizes drugs used to manage respiratory, cardiac, neurological, gastrointestinal, fluid and electrolyte and endocrine disorders and includes classification, mechanism of action, indications, contraindications, precautions, and patient education. Incorporates principles related to substance abuse and hazardous materials. Applies principles during the assessment and management of trauma, medical, and specialty patients in a laboratory environment. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week. Generally offered fall.

EMS 211 Operations (2 Cr.)
Prepares the student in the theory and application of the following: medical incident command, rescue awareness and operations, hazardous materials incidents, and crime scene awareness. (Conforms to the current Virginia Office of Emergency Medical Services curriculum for EMT-Paramedics.) Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. Generally offered fall.
EMF 242 ALS Clinical Internship III (1 Cr.)
Continues with the third in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in-and-out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma Centers and various advanced life support units. Laboratory 3-6 hours per week. Generally offered fall.

EMF 243 ALS Field Internship III (1 Cr.)
Continues with the third in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. Laboratory 3-6 hours per week. Generally offered fall.

EMF 244 ALS Clinical Internship IV (1 Cr.)
The fourth in a series of clinical experiences providing direct patient contact in appropriate patient care facilities in-and-out of hospitals. Includes, but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room and Trauma Centers. May be repeated as necessary. Laboratory 3-6 hours per week. Generally offered spring.

EMF 245 ALS Field Internship IV (1Cr.)
Continues with the fourth in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. May be repeated as necessary. Laboratory 3-6 hours per week. Generally offered spring.

Engineering (EGR)

EGR 110 Engineering Graphics (3 Cr.)
 Presents theories and principles of orthographic projection. Studies multi-view, pictorial drawings and sketches, geometric construction, sectioning, lettering, tolerancing, dimensioning and auxiliary projections. Studies the analysis and graphic presentation of space relationships of fundamental geometric elements; points, lines, planes and solids. Preparation of drawings using both manual techniques and Computer Aided Drafting (CAD). Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall and spring.

EGR 135 Statics for Engineering Technology (3 Cr.)
 Introduces Newton’s Laws, resultants and equilibrium of force systems, analysis of trusses and frames. Teaches determination of centroids, distributed loads and moments of inertia. Covers dry friction and force systems in space. Prerequisite: MTH 115. Lecture 3 hours per week. Generally offered fall.

EGR 136 Strength of Materials for Engineering Technology (3 Cr.)
 Presents concepts of stress and strain. Focuses on analysis of stresses and deformations in loaded members, connectors, shafts, beams, columns and combined stress. Prerequisite: EGR 135. Lecture 3 hours per week. Generally offered spring.

EGR 206 Engineering Economics (3 Cr.)
 Presents economic analysis of engineering alternatives. Studies economic and cost concepts, calculation of economic equivalence, comparison of alternatives, replacement economy, economic optimization in design and operation, depreciation and after tax analysis. Lecture 3 hours per week. Generally offered fall.

EGR 216 Computer Methods in Engineering and Technology (3 Cr.)
 Provides advanced level experience in using a computer as a tool for solving technical problems and performing office functions. Includes computer hardware and operating system usage, structured programming in a selected high level language, use of word processing software, computer graphics and spreadsheets. Focuses on the analysis and solution of problems in engineering and technology. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. Generally offered spring.

EGR 247 Mechanics of Materials Laboratory (1 Cr.)
 Examines mechanical behavior of bars, rods, shafts, tubes and beams subjected to various types of loading. Introduces experimental stress analysis techniques, such as the use of strain gages and data reduction. Laboratory 2 hours per week. Generally offered spring.

English (ENG)

ENG 1 Preparing for College Writing I (3 Cr.)
 Helps students discover and develop writing processes needed to bring their proficiency to the level necessary for entrance into their respective curricula. Guides students through the process of starting, composing, revising and editing. Lecture 3 hours per week. Generally offered all semesters.

ENG 3 Preparing for College Writing II (3 Cr.)
 Emphasizes strategies within the writing process to help students with specific writing situations. Develops techniques to improve clarity of writing and raise proficiency to the level necessary for entrance into particular curricula. Lecture 3 hours per week. Generally offered all semesters.
Course Descriptions

ENG 4 Reading Improvement I (3 Cr.)
Helps students improve their reading processes to increase their understanding of reading materials. Includes word forms and meanings, comprehension techniques and ways to control reading pace. Lecture 3 hours per week. Generally offered all semesters.

ENG 111 College Composition I (3 Cr.)
Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics: develop and support ideas; investigate, evaluate and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences and purposes. Writing activities will include exposition and argumentation with at least one researched essay. Prerequisite: Satisfactory writing placement test score or satisfactory completion of ENG 1 and/or ENG 03 with satisfactory writing placement test score. Lecture 3 hours per week. Generally offered all semesters.

ENG 112 College Composition II (3 Cr.)
Continues to develop college writing with increased emphasis on critical essays, argumentation and research, developing these competencies through the examination of a range of texts about the human experience. Requires students to locate, evaluate, integrate and document sources and effectively edit for style and usage. Prerequisites: Reading and students must successfully complete ENG 111 or its equivalent and must be able to use word processing software. Lecture 3 hours per week. Generally offered all semesters.

ENG 115 Technical Writing (3 Cr.)
Develops ability in technical writing through extensive practice in composing technical reports and other documents. Guides students in achieving voice, tone, style and content in formatting, editing and graphics. Introduces students to technical discourse through selected readings. Prerequisite: placement testing approval for ENG 111 or instructor approval. Lecture 3 hours per week. Generally offered fall and spring.

ENG 116 Writing for Business (3 Cr.)
Develops ability in business writing through extensive practice in composing business correspondence and other documents. Guides students in achieving voice, tone, style and content appropriate to a specific audience and purpose. Includes instruction in formatting and editing. Introduces students to business discourse through selected readings. Lecture 3 hours per week. Generally offered periodically.

ENG 120 Survey of Mass Media (3 Cr.)
Examines radio, television, newspapers, magazines, books and motion pictures. Emphasizes the nature of change in and the social implications of, communications media today. Lecture 3 hours per week. Offered periodically.

ENG 139 - College Grammar (3 Cr.)
Studies formal English grammar and effective expression with attention to recognizing and employing appropriately the various levels of English usage, thinking logically, speaking and writing effectively, editing, evaluating content and intent of both spoken and written English, and punctuating correctly. Lecture 3 hours per week. Offered periodically.

ENG 195 English Honors Seminar (1 Cr.)
Explores works on an annual theme selected by the English faculty. Presents varied faculty and student viewpoints and encourages students to research and present individual aspects of theme. Offered for honors credit. Students may enroll more than once. Instructor approval required. Offered periodically.

ENG 210 Advanced Composition (3 Cr.)
Helps students refine skills in writing non-fiction prose. Guides development of individual voice and style. Introduces procedures for publication. Prerequisite: ENG 112. Lecture 3 hours per week. Course offered periodically.

ENG 211-212 Creative Writing I-II (3 Cr.) (3 Cr.)
Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama and essays. Prerequisite: ENG 112. Lecture 3 hours per week. Offered periodically.

ENG 215-216 Creative Writing – Fiction I-II (3 Cr.) (3 Cr.)
Introduces the fundamentals and techniques of writing short and long fiction. Prerequisite: ENG 112. Lecture 3 hours per week. Offered periodically.

ENG 217 Creative Writing Poetry I (3 Cr.)
Introduces the fundamentals and techniques of writing poetry. Lecture 3 hours per week. Offered periodically.

ENG 218 - Creative Writing Poetry II (3 Cr.)
Introduces the fundamentals and techniques of writing poetry. Prerequisite: ENG 217 or instructor's approval. 3 hours per week. Offered periodically.

ENG 236 Introduction to the Short Story (3 Cr.)
Examines selected short stories emphasizing the history of the genre. Involves critical reading and writing. Prerequisite ENG 112. Lecture 3 hours per week. Offered periodically.
ENG 241-242 Survey of American Literature. I-II (3 Cr.) (3 Cr.)
Examines American literary works from colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing. Prerequisite: ENG 112. Lecture 3 hours per week. Generally offered all semesters.

ENG 243-244 Survey of English Literature I-II (3 Cr.) (3 Cr.)
Studies major English works from the Anglo-Saxon period to the present, emphasizing ideas and characteristics of the British literary tradition. Involves critical reading and writing. Prerequisite: ENG 112. Lecture 3 hours per week. Generally offered all semesters.

ENG 245 Major English Writers (3 Cr.)
Examines major writers in English literary history. Involves critical reading and writing. Reading prerequisite required. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week. Offered periodically.

ENG 246 Major American Writers (3 Cr.)
Examines major writers of American literary history. Involves critical reading and writing. Prerequisite: ENG 112. Lecture 3 hours per week. Offered periodically.

ENG 251-252 Survey of World Literature I-II (3 Cr.) (3 Cr.)
Examines major works of world literature. Involves critical reading and writing. Prerequisite: ENG 112. Lecture 3 hours per week. Generally offered fall and spring.

ENG 255 Major Writers in World Literature (3 Cr.)
Examines major writers selected from a variety of literary traditions. Involves critical reading and writing. Prerequisite ENG 112. Lecture 3 hours per week. Offered periodically.

ENG 261-262 Advanced Creative Writing I-II (3 Cr.) (3 Cr.)
Guides the student in imaginative writing in selected genres on an advanced level. Prerequisites: ENG 112 and ENG 211 or 212. Lecture 3 hours per week. Offered periodically.

ENG 276 Southern Literature (3 Cr.)
Examines the themes and techniques of selected writers dealing with the American South as a distinctive cultural entity. Involves critical reading and writing. Prerequisite: ENG 112. Lecture 3 hours per week. Offered periodically.

ENG 278 Appalachian Literature (3 Cr.)
Examines selected works of outstanding authors of the Appalachian region. Involves critical reading and writing. Lecture 3 hours per week. Course offered periodically.

ENG 279 Film and Literature (3 Cr.)
Examines the translation of literature into film viewing and writing. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week. Offered periodically.

ENG 280 Writing User Manuals (3 Cr.)
Provides instruction on how to design, write and test a manual. Focuses on the principles used in writing technical manuals, the document process, design and drafting procedures and finally, testing and revising the manual. Prerequisite: ENG 112 or divisional approval. Lecture 3 hours per week. Offered periodically.

**English as a Second Language (ESL)**

ESL 7 Oral Communication I (3 Cr.)
Helps students practice and improve listening and speaking skills as needed for functioning successfully in academic, professional and personal settings. Assesses students' oral skills and includes, as needed, practice with pronunciation, stress and intonation. Provides exercises, practices, small and large group activities and oral presentations to help students overcome problems in oral communication. Lecture 3 hours per week. Generally offered fall and spring.

ESL 18 English As a Second Language: Writing Workshop (3-6 Cr.)
Provides an opportunity for further practice in intermediate and advanced writing techniques taught in required ESL writing courses. Provides reinforcement in writing skills, including composing, organizing, revising and editing. Variable hours per week. Generally offered fall and spring.

**Financial Services (FIN)**

FIN 107 Personal Finance (3 Cr.)
Presents a framework of personal money management concepts, including establishing values and goals, determining sources of income, managing income, preparing a budget, developing consumer buying ability, using credit, understanding savings and insurance, providing for adequate retirement and estate planning. Lecture 3 hours per week. Generally offered fall and spring.

FIN 215 Financial Management (3 Cr.)
Introduces basic financial management topics including statement analysis, working capital, capital budgeting, and long-term financing. Focuses on net present value and internal rate of return techniques, lease vs. buy analysis and cost of capital computations. Uses problems and cases to enhance skills in financial planning and decision-making. Lecture 3 hours per week. Generally offered fall.
French (FRE)

FRE 101-102 Beginning French I-II (4 Cr.) (4 Cr.)
Introduces understanding, speaking, reading and writing skills and emphasizes basic French sentence structure. Prerequisite: FRE 101 for FRE 102. Lecture 4 hours per week. Generally offered fall and spring.

FRE 201-202 Intermediate French I-II (3 Cr.) (3 Cr.)
Continues to develop understanding, speaking, reading and writing skills. French used in the classroom. Prerequisite: FRE 102 for FRE 201; FRE 201 for FRE 202. Lecture 3 hours per week. Generally offered fall and spring.

FRE 233-234 - Introduction to French Civilization and Literature I-II (3Cr.) (3 Cr.)
Introduces the student to French culture and literature. Readings and discussions conducted in French. Prerequisite FRE 201-202 or equivalent. Offered periodically.

Geography (GEO)

GEO 210 People and the Land: Intro to Cultural Geography (3 Cr.)
Focuses on the relationship between culture and geography. Presents a survey of modern demographics, landscape modification, material and non-material culture, language, race and ethnicity, religion, politics and economic activities. Introduces the student to types and uses of maps. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

GEO 220 - World Regional Geography (3 Cr.)
Studies physical and cultural characteristics of selected geographical regions of the world. Focuses upon significant problems within each of the regions, and examines the geographical background of those problems. Introduces the student to types and uses of maps. Lecture 3 hours per week. Generally offered all semesters.

Health (HLT)

HLT 100 - First Aid and Cardiopulmonary Resuscitation (2 Cr.)
Focuses on the principles and techniques of safety, first aid, and cardiopulmonary resuscitation. Lecture 2-3 hours per week. Generally offered spring.

HLT 106 First Aid Safety (2 Cr.)
Focuses on the principles and techniques of safety and first aid. Lecture 2 hours per week. Generally offered spring.

HLT 115 Intro to Personal and Community Health (1 Cr.)
Introduces and focuses on the principles of personal and community health. Lecture 1 hour per week. Generally offered fall and spring.

HLT 116 Personal Wellness (2 Cr.)
Introduces students to the dimensions of wellness, including nutrition, weight control, stress management and physical conditioning. Includes a personal wellness plan. Lecture 2 hours per week. Generally offered fall and spring.
Course Descriptions

HLT 130 Nutrition and Diet Therapy (2 Cr.)
Studies nutrients, sources, functions and requirements with an introduction to diet therapy. Lecture 2 hours per week. Generally offered fall, spring and summer. Generally offered all semesters.

HLT 160 Personal Health and Fitness (3 Cr.)
Studies the relationships between health and fitness. Topics include nutrition, disease prevention, weight control, smoking and health, medical care, aerobic and anaerobic conditioning. And the relationship between physical and mental health. Lecture 2 hours per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered fall and spring.

HLT 208 Fitness and Exercise Training (3 Cr.)
Introduces techniques for conducting physical fitness assessments and includes an introduction to electrocardiography. Emphasizes tests of cardio respiratory fitness, muscular strength and endurance, joint flexibility, body composition, and pulmonary capacity. Emphasizes the safety guidelines and precautions used in testing. Covers equipment use and maintenance. Prerequisite: HLT 100. Lecture 2 hours. Laboratory 2-3 hours per week. Generally offered fall and spring.

HLT 215 Personal Stress and Stress Management (2 Cr.)
Provides a basic understanding of stress and its physical, psychological and social effects. Includes the relationships between stress and change, self-evaluation, sources of stress and current coping skills for handling stress. Lecture 2 hours per week. Generally offered fall and spring.

Health Information Management (HIM)

HIM 111-112 Medical Terminology I-II (3 Cr.) (3 Cr.)
Introduces the student to the language used in the health record. Includes a system-by-system review of anatomic disease, operative terms, abbreviations, radiography procedures, laboratory tests and pharmacology terms. Reading prerequisite and ENG 111 placement required. Prerequisite: HIM 111 for HIM 112. Lecture 3 hours per week. Generally offered all semesters.

HIM 115 Ambulatory Coding and Classification (3 Cr.)
Focuses on disease and procedure classification in the ambulatory care environment. Develops basic coding and classification knowledge using ICD-9-CM and CPT. Not intended for HIM majors. Reading prerequisite required. Lecture 3 hours per week. Generally offered fall.

HIM 130 Healthcare Information Systems (3 Cr.)
Focuses on microcomputer applications, information systems and applications in the health care environment. Reading prerequisite required. Lecture 3 hours per week. Generally offered spring.

HIM 141 Fundamentals of Health Information Systems I (3 Cr.)
Focuses on health data collection, storage, retrieval and reporting systems, with emphasis on the role of the computer in accomplishing these functions. Reading prerequisite required. Lecture 3 hours per week. Generally offered spring.

HIM 143 - Managing Electronic Billing in a Medical Practice (2-3 Cr.)
Presents practical knowledge on use of computer technology in medical practice management. Develops basic skills in preparation of universal billing claim. Explores insurance claim processing issues. Prerequisites: HIM 253 and AST 101, AST 102 or AST 141. Lecture 2-3 hours per week. Generally offered summer.

HIM 150 Health Records Management (3 Cr.)
Presents documentation format and content of the medical record relevant to the coding function. Introduces application of standard techniques for filing, maintenance, and acquisition of health information. Examines the processes of collecting, computing, analyzing, interpreting, and presenting data related to health care services. Includes legal and regulatory guidelines for the control and use of health information data. Reading prerequisite required. Lecture 3 hours per week. Generally offered summer.

HIM 151 Reimbursement Issues in Medical Practice Management (2 Cr.)
Introduces major reimbursement systems in the United States. Focuses on prospective payment systems, managed care, and documentation necessary for appropriate reimbursement. Emphasizes management of practice to avoid fraud. Reading prerequisite required. Lecture 2 hours per week. Generally offered summer.

HIM 230 Information Systems and Technology in Health Care (3 Cr.)
Explores computer technology and systems application in health care. Introduces the information system life cycle. Reading prerequisite and ENG 111 placement required. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Generally offered fall.
HIM 253 Health Records Coding (4 Cr.)
Examines the development of coding classification systems. Introduces ICD-9-CM coding classification system, its format and conventions. Stresses basic coding steps and guidelines according to body systems. Provides actual coding exercises in relation to each system covered. Prerequisite: HIM 111 and PNE 155 or BIO 100. Lecture 4 hours per week. Generally offered spring.

HIM 254 Advanced Coding and Reimbursement (4 Cr.)

HIM 260 Pharmacology for Health Information Technology (2 Cr.)
Introduces the general study of drug classifications, uses and effects as required to perform health data collection and retrieval tasks. Reading prerequisite and ENG 111 placement required. Lecture 2 hours per week. Generally offered spring and summer.

HIM 265 - Facility Based Medical Coding (3 Cr.)
Students will learn to accurately assign CPT, ICD-9 Level 1, 2 and 3, in addition to HCPCS codes for inpatient, outpatient facility, and ambulatory surgical centers according to guidelines and rules set forth by the cooperating parties. Students will apply the theory and regulations concerning prospective payments systems (in and out of the facility setting) APC and DRG assignment. Reading prerequisite and ENG 111 placement required. Instructor permission required. Lecture 3 hours per week. Generally offered spring.

HIM 290 - Coordinated Internship (1 Cr.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. Credit/practice ratio not to exceed 1:5 hours. May be repeated for credit.1-5 credits. Generally offered spring and summer.

HIM 296 - On-Site Training (1 Cr.)
Specializes in career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit.1-5 credits. Generally offered spring and summer.

History (HIS)

HIS 111-112 History of World Civilization I-II (3 Cr.) (3 Cr.)
Surveys Asian, African, Latin American and European civilizations from the ancient period to the present. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

HIS 121-122 United States History I-II (3 Cr.)
Surveys United States history from its beginning to the present. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

HIS 141-142 African-American History I-II (3 Cr.) (3 Cr.)
Surveys the history of black Americans from their African origins to the present. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HIS 193 Studies In (1-5 Cr.)
Covers new content not covered in existing courses in the discipline. Allows instructor to explore content and instructional methods to assess the course's viability as a permanent offering. Variable hours per week. Offered periodically.

HIS 251-252 History of Middle East Civilization I-II (3Cr.)
Surveys intellectual, cultural, social, economic and religious patterns in the civilizations of the Middle East. Covers Semitic, Indo-European, and Turkic-speaking peoples from pre-Islamic to the present. Reading prerequisite required. Lecture 3 hours per week. Offered alternate two year cycle with HIS 253.

HIS 253 -254 History of Asian Civilizations I-II (3 Cr.) (3 Cr.)
Surveys the civilizations of Asia from their origins to the present. Reading prerequisite required. Lecture 3 hours per week. Offered alternate two year cycle with HIS 251-252.

HIS 267 The Second World War (3 Cr.)
Examines causes and consequences of the Second World War. Includes the rise of totalitarianism, American neutrality, military developments, the home fronts, diplomacy and the decision to use the atomic bomb. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HIS 268 The American Constitution (3 Cr.)
Analyzes the origin and development of the United States Constitution. Includes the evolution of civil liberties, property rights, contracts, due process, judicial review, federal-state relationships, and corporate-government relations. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.
Course Descriptions

HIS 269 Civil War and Reconstruction (3 Cr.)
Studies factors that led to the division between the States. Examines the war, the home fronts, and the era of Reconstruction. Reading prerequisite required. Lecture 3 hours per week. Course generally offered spring.

HIS 276 United States History Since World War II (3 Cr.)
Investigates United States history from 1946 to the present, studying both domestic developments and American involvement in international affairs. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

Humanities (HUM)
HUM 100 Survey of the Humanities (3 Cr.)
Introduces the humanities through art, literature, music and philosophy of various cultures and historical periods. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HUM 195 Leadership Development (3 Cr.)
This course is designed to provide emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve their leadership skills. The course integrates readings from the humanities, experiential exercises, films, and contemporary readings on leadership. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HUM 201 Survey of Western Culture I (3 Cr.)
Studies thought, values and arts of Western culture, integrating major developments in art, architecture, literature, music and philosophy. Covers the following periods: Ancient and Classical, Early Christian and Byzantine, Medieval and early Renaissance. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

HUM 202 Survey of Western Culture II (3 Cr.)
Studies thought, values and arts of Western culture, integrating major developments in art, architecture, literature, music and philosophy. Covers the following periods: Renaissance, Baroque, Enlightenment, Romantic and Modern. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

HUM 211-212 Survey of American Culture I-II (3 Cr.) (3 Cr.)
Examines elements of our national culture as they evolved from the first European explorations through colonization and independence to the present day. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HUM 215 Native American Culture (3 Cr.)
Surveys the cultural history of Native (Indian) peoples in the Americas from the pre-Columbian era until the present. Studies history, religion, literature, arts, life-ways and world-views which comprise the diverse traditions of Native peoples. Lecture 3 hours per week. Offered periodically.

HUM 218 Survey of Horror (3 Cr.)
Surveys and analyzes the horror genre, focusing on the psychological, anthropological, and historical background of monsters. Acquaints students with recurring horror themes in literature, art, and popular culture from around the world. Fluency in Standard American English. Recommend proficiency in reading and writing at English 111 level. Lecture 3 hours per week. Offered periodically.

HUM 241-242 Interdisciplinary Principles of the Humanities I-II (3 Cr.) (3 Cr.)
Integrates unifying principles of the humanities and related fields of study. Emphasizes the expansion of student’s intellectual perspective and development of concepts enabling the integration of knowledge from diverse fields into a unified whole. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HUM 260 Survey of Twentieth-Century Culture (3 Cr.)
Explores literature, visual arts, philosophy, music and history of our time from an interdisciplinary perspective. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

HUM 295 Topics In (3 Cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors course. May be repeated for credit. Variable hours 1-5 credits. Offered periodically.

HUM 295 Phi Theta Kappa Honors Seminar (1 Cr.)
Explores honors topic selected annually by Phi Theta Kappa, the national honor society for two-year colleges. Presents varied faculty viewpoints and encourages students to research and present individual aspects of a topic. Offered for honors credit. Students may enroll more than once. Reading prerequisite required. Faculty permission required. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered fall and spring. Generally offered fall and spring.
Information Technology Design and Database (ITD)

ITD 110 Web Page Design I (3 Cr.)
Stresses a working knowledge of web site designs, construction and management using HTML or XHTML. Course content includes headings, lists, links, images, image maps, tables, forms and frames. Reading prerequisite required. Prerequisite: ITE 115 (or equivalent) strongly recommended. Lecture 3 hours per week. Generally offered fall.

ITD 112 Designing Web Page Graphics (3 Cr.)
Explores the creation of digital graphics for web design. Basic design elements such as color and layout will be explored utilizing a computer graphics program(s). Reading prerequisite required. Prerequisite: ITD 110 (or equivalent) strongly recommended. Lecture 3 hours per week. Generally offered fall.

ITD 130 Database Fundamentals (3 Cr.)
Introduces the student to Relational Database and Relational Database theory. Includes planning, defining and using a database; table design, linking and normalization; types of databases, database description and definition. Reading prerequisite required. Prerequisite: ITE 115 (or equivalent) strongly recommended. Lecture 3 hours per week. Generally offered fall; occasionally summer.

ITD 132 Structured Query Language (3 Cr.)
Incorporates a working introduction to commands, functions and operators used in SQL for extracting data from standard databases. Reading prerequisite required. Prerequisite: ITD 130. Lecture 3 hours per week. Generally offered fall.

ITD 134 PL/SQL Programming (3 Cr.)
Presents a working introduction to PL/SQL programming with the Oracle RDBMS environment. Includes PL/SQL fundamentals of block program structure, variables, cursors and exceptions and creation of program units of procedures, functions, triggers and packages. Reading prerequisite required. Prerequisites: ITP 100 and ITD 130. Lecture 3 hours per week. Generally offered fall or spring.

ITD 210 Web Page Design II (3 Cr.)
Incorporates advanced techniques in web site planning, design, usability, accessibility, advanced site management and maintenance utilizing web editor software(s). Reading prerequisite required. Prerequisite: ITD 112. Lecture 3 hours per week. Generally offered spring.

ITD 220 e-Commerce Administration (3 Cr.)
Emphasizes techniques to plan and to design a platform-independent commerce Web site. Focuses on web business strategies and the hardware and software tools necessary for Internet commerce, including comparison and selection of commerce architecture, installation and configuration, security considerations and planning of a complete business-to-consumer and a business-to-business site. Reading prerequisite required. Prerequisite: ITD 110 (or equivalent) strongly recommended. Lecture 3 hours per week. Generally offered fall.

ITD 250 Database Architecture and Administration (3 Cr.)
Involves in-depth instruction about the underlying architecture of databases and the handling of database administration. Reading prerequisite required. Prerequisites: ITD 130 and ITD 132 or ITD 134. Lecture 3 hours per week. Generally offered fall or spring.

Information Technology Essentials (ITE)

ITE 115 Introduction to Computer Applications and Concepts (3 Cr.)
Covers computer concepts and Internet skills and use of a software suite which includes word processing, spreadsheet, database and presentation software to demonstrate skills required for computer literacy. Reading prerequisite required. Prerequisite: AST 117 or AST 101 or equivalent highly recommended. Lecture 3 hours per week. Generally offered all semesters.

ITE 120 Principles of Information Systems (3 Cr.)
Provides an overview of the fundamentals of computer information systems. Focuses on the role of computers in business today including hardware, software, analysis, design and implementation of information systems. Includes an introduction to computer ethics, and business and personal security. Exposes students to techniques used in programming and system development. Utilizes a hands-on component for spreadsheets, databases, and web design applications. Reading prerequisite required. Prerequisite: AST 117 or AST 101 or equivalent highly recommended. Lecture 3 hours per week. Generally offered spring or summer.

Information Technology Networking (ITN)

ITN 106 Microcomputer Operating Systems (3 Cr.)
Teaches use of operating system utilities and multiple-level directory structures, creation of batch files and configuration of microcomputer environments. May include a study of graphical user interfaces. Maps to A+ Software Certification. Reading prerequisite required. Lecture 3 hours per week. Generally offered spring.
ITN 107 Personal Computer Hardware and Troubleshooting (3 Cr.)
Includes specially designed instruction to give students a basic knowledge of hardware and software configurations. It includes the installation of various peripheral devices as well as basic system hardware components. Maps to A+ Hardware Certification. Reading prerequisite required. Lecture 3 hours per week. Generally offered fall.

ITN 109 Internet and Network Foundations (3 Cr.)
Provides a basic comprehension of Internet and network technologies including IT job roles, connection methods, TCP/IP functionality and DNS. Explores web server technologies with security and project management concepts. Introduces network creation, physical and logical topologies including media properties, server types, IP addressing and network security. Reading prerequisite required. Lecture 3 hours per week. Generally offered fall; occasionally summer.

ITN 120 Wireless – Network Administration (WNA) (3 Cr.)
Provides instruction in fundamentals of wireless information systems. Course content includes terms, standards, components and operating requirements in the design and implementation of wireless networks. Reading prerequisite required. Prerequisite: ITN 109 strongly recommended. Lecture 3 hours per week. Generally offered spring.

ITN 170 Linux System Administration (3 Cr.)
Focuses instruction on the installation, configuration and administration of the Linux operating system and emphasizes the use of Linux as a network client and workstation. Reading prerequisite required. Prerequisite: ITN 106. Lecture 3 hours per week. Generally offered spring.

ITN 200 Administration of Network Resources (3 Cr.)
Focuses on the management of local area network servers. Teaches proper structuring of security systems. Explains print queues, disk management and other local area network (LAN) issues. Presents concerns and issues for the purchase and installation of hardware and software upgrades. Can be taught using any network operating system or a range of operating systems as a delivery tool. Reading prerequisite required. Prerequisites: ITN 106 and ITN 109. Lecture 3 hours per week. Generally offered fall.

ITN 201 Administration & Management of Network Infrastructures (3 Cr.)
Focuses on the administration and management of network infrastructures. Covers network addressing of clients and servers, naming resolution, remote access, security, printing services, and troubleshooting. Uses network operating system as the delivery tools. Reading prerequisite required. Prerequisite: ITN 200. Lecture 3 hours per week. Generally offered spring.

ITN 224 Web Server Management (3 Cr.)
Focuses on the Web Server as a workhorse of the World Wide Web (WWW). Teaches how to set up and maintain a Web server and provides in-depth instruction in Web server operations and provides hands-on experience in installation and maintenance of a Web server. Reading prerequisite required. Prerequisites: ITD 110 and ITN 109. Lecture 3 hours per week. Generally offered spring.

ITN 260 Network Security Basics (3 Cr.)
Provides instruction in the basics of network security in depth. Course content includes security objectives, security architecture, security models and security layers. Course content also includes risk management, network security policy and security training. Course content includes the give security keys, confidentiality integrity, availability, accountability and auditability. Reading prerequisite required. Prerequisite: ITN 109. Networking background highly recommended. Lecture 3 hours per week. Generally offered fall or spring; occasionally summer.

ITN 261 Network Attacks, Computer Crime and Hacking (4 Cr.)
Encompasses in-depth exploration of various methods for attacking and defending a network. Course content explores network security concepts from the viewpoint hackers and their attack methodologies. Course content also includes topics about hackers, attacks, Intrusion Detection Systems (IDS) malicious code, computer crime and industrial espionage. Reading prerequisite required. Prerequisite: ITN 260. Networking background required. Lecture 3 hours per week. Generally offered fall.

ITN 262 Network Communication, Security and Authentication (4 Cr.)
Covers an in-depth exploration of various communication protocols with a concentration on TCP/IP. Course content explores communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Course content includes Internet architecture, routing, addressing, topology, fragmentation and protocol analysis and the use of various utilities to explore TCP/IP. Reading prerequisite required. Prerequisites: ITN 106 (or equivalent) and ITN 260. Networking background highly recommended. Lecture 3 hours per week. Generally offered fall.
ITN 263 Internet/Intranet Firewalls and E-Commerce Security (4 Cr.)
Conveys an in-depth exploration of firewall, Web security and e-commerce security. Course content also explores firewall concepts, types, topology and the firewall’s relationship to the TCP/IP protocol. Course content also includes client/server architecture, the Web server, HTML and HTTP in relation to Web Security and digital certification, D.509 and public key infrastructure (PKI). Reading prerequisite required. Prerequisites: ITN 106 (or equivalent) and ITN 260. Networking background highly recommended. Lecture 3 hours per week. Generally offered spring.

ITN 267 Legal Topics in Network Security (3 Cr.)
Conveys an in-depth exploration of the civil and common law issues that apply to network security. Explores statutes, jurisdictional, and constitutional issues related to computer crimes and privacy. Includes rules of evidence, seizure and evidence handling, court presentation and computer privacy in the digital age. Prerequisite: ITN 260. Lecture 3 hours per week. Generally offered spring; occasionally summer.

ITN 276 Computer Forensics I (3 Cr.)
Teaches computer forensic investigation techniques for collecting computer-related evidence at the physical layer from a variety of digital media (hard drives, compact flash and PDAs) and performing analysis at the file system layer. Prerequisite: ITN 106, ITN 107 or instructor permission. Co-requisite: ITN 260. Lecture 3 hours per week. Generally offered spring; occasionally summer.

Information Technology Programming (ITP)

ITP 100 Software Design (3 Cr.)
Introduces principles and practices of software development. Course content includes instruction in critical thinking, problem solving skills and essential programming logic in structured and object-oriented design using contemporary tools. Reading prerequisite required. Lecture 3 hours per week. Generally offered spring; occasionally summer.

ITP 112 Visual Basic.NET I (4 Cr.)
Concentrates instruction in fundamentals of object-oriented programming using Visual Basic.NET and the .NET framework. Course content emphasizes program construction, algorithm development, coding, debugging and documentation of graphical user interface applications. Reading prerequisite required. Prerequisite: ITP 100. Lecture 3 hours per week. Generally offered fall.

ITP 120 Java Programming I (4 Cr.)
Entails instruction in fundamentals of object-oriented programming using Java. This course emphasizes program construction, algorithm development, coding, debugging and documentation of console and graphical user interface applications. Reading prerequisite required. Prerequisite: ITP 100. Lecture 4 hours per week. Generally offered fall.

ITP 160 Intro to Game Design & Development (3 Cr.)
Introduces object-oriented game design and development. Provides overview of the electronic game design and development process and underlines the historical contest, content creation strategies, game careers, and future trends in the industry. Utilizes a game language environment to introduce game design, object-oriented paradigms, software design, software development and product testing. Teaches skills of writing a game design document and creating a game with several levels and objects. Integrate 2D animations, 3D models, sound effects, and background music as well as graphic backgrounds. Reading prerequisite required. Prerequisite: ITP 100. Lecture 3 hours per week. Generally offered fall or spring.

ITP 212 Visual Basic.NET II (4 Cr.)
Includes instruction in application of advanced object-oriented techniques to application development. Course content emphasizes database connectivity, advanced controls, web forms and web services using Visual Basic.NET. Reading prerequisite required. Prerequisite: ITP 112. Lecture 4 hours per week. Generally offered spring.

ITP 220 Java Programming II (4 Cr.)
Imparts instruction in application of advanced object-oriented techniques to application development using Java. Emphasizes database connectivity, inner classes, collection classes, networking, and threads. Lecture 4 hours per week. Generally offered spring.

ITP 225 Web Scripting Languages (4 Cr.)
Introduces students to the principles, systems and tools used to implement Web applications. Provides students with a comprehensive introduction to the programming tools and skills required to build and maintain interactive Web sites. Students will develop Web applications utilizing client-side and server-side scripting languages along with auxiliary tools needed for complete applications. Reading prerequisite required. Prerequisites: ITD 110 and ITP 100. A semester of high-level programming language (e.g., ITP 120) is strongly recommended. Lecture 4 hours per week. Generally offered spring.
ITP 251 Systems Analysis and Design (4 Cr.)
Focuses on application of information technologies (IT) to system life cycle methodology, systems analysis, systems design and system implementation practices. Methodologies related to identification of information requirements, feasibility in the areas of economic, technical and social requirements and related issues are included in course content. Software applications may be used to enhance student skills. Prerequisite: Successful completion of a minimum of 9 IT credit hours. This is intended to be a fourth semester capstone course; as such, proficiency in Internet and network fundamentals, database management and software design is required. Reading prerequisite required. Competence in college-level reading and writing is essential. Lecture 3 hours per week. Generally offered spring.

Interpreter Education (INT)
INT 105–106 Interpreting Foundations I-II (3 Cr.) (3 Cr.)
Develops fundamental skills of interpreting, including cognitive processes and intralingual language development in English and ASL. Reviews Process Models of interpreting, and uses one to analyze interpretations. Develops feedback skills essential to the team interpreting process. Part I of II. Lecture 3 hours per week. ITN 105 and ITN 106 generally offered fall only.

INT 130 - Interpreting: An Intro. to the Profession (3 Cr.)
Introduces basic principles and practices of interpreting, focusing on the history of the profession, logistics of interpreting situations, regulatory and legislative issues, resources, and the Code of Ethics. Describes the state quality assurance screening and national certification exam systems, including test procedures. Lecture 3 hours per week. Generally offered summer only.

Interior Design (IDS)
IDS 100 Theory and Techniques of Interior Design (3 Cr.)
Introduces drafting and presentation, color theory and coordination, space planning and arrangement of furnishings. Generally offered fall.

IDS 105 Architectural Drafting for Interior Design (3 Cr.)
Introduces tools and equipment, lettering, methods of construction, designing and delineation of architecture. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

IDS 106 Three Dimensional Drawing and Rendering (3 Cr.)
Provides instruction in graphic presentation of three-dimensionally drawn interiors. Presents the use of colored media to render three-dimensional drawings. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered fall.

IDS 116 Period Residential Design (4 Cr.)
Plans a period-inspired interior. May use field trips and visual materials to enhance this project. Presents problem and their solutions found in this kind of project. May require a final visual presentation with all necessary furnishings, materials and color boards with rendered perspectives. Prerequisites: IDS 100 and 121. Generally offered spring.

IDS 121 Styles of Furniture and Interiors I (3 Cr.)
Introduces students to styles of furniture and interior design from the ancient world to the 18th century and early 19th century and suggests current applications to interior designs. Lecture 3 hours per week. Generally offered fall.

IDS 122 Styles of Furniture and Interiors II (3 Cr.)
Introduces students to styles of furniture and interior design from the ancient world to the 19th century and early 20th century and suggest current applications to interior designs. Lecture 3 hours per week. Generally offered spring.

IDS 195 - Topics In (3 Cr.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours. Generally offered spring.

IDS 205 Materials and Sources (3 Cr.)
Presents textiles, floor and wall coverings and window treatments. Emphasizes construction, fiber, finish and code applications. May use research and field trips to trade sources representing these elements. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered fall.

IDS 206 Lighting and Furnishings (3 Cr.)
Provides instruction in lighting terminology and calculations and instructions in techniques of recognizing quality of construction in furnishings and related equipment. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered spring.

IDS 217 Advanced Rendering and Presentation (3 Cr.)
Gives advanced problems in rendering and visual presentation. Teaches methods of presentation and development of completed interior design projects with rendered perspectives and presentation boards of furnishings, fixtures, finishes, schedules and related materials. Prerequisites: IDS 105, 106. Lecture 1 hour. Laboratory 4 hours per week. Total 5 hours per week. Generally offered spring.
IDS 225 Business Procedures (3 Cr.)
Provides instruction in preparation of contracts, purchase orders, specifications and other business forms used in the interior design field. Lecture 3 hours per week. Generally offered fall.

IDS 245 Computer Aided Drafting for Interior Designers (3 Cr.)
Instructs in the use of the computer for drafting of floor plans, elevations, perspectives, shadowing, lighting and color applications using Auto Cad software and the architecture and engineering software. Lecture 1 hour. Laboratory 4 hours per week. Total 5 hours per week. Generally offered spring.

Interpreter Education (INT)
INT 105-106 Interpreter Education (3 Cr.) (3 Cr.)
Develops fundamental skills of interpreting, including cognitive processes and intralingual language development in English and ASL. Reviews models of interpreting and uses one to analyze interpretations. Develops feedback skills essential to the team interpreting process. Lecture 3 hours per week. Generally offered summer.

INT 130 Interpreting: An Introduction to the Profession (3 Cr.)
Introduces basic principles and practices of interpreting, focusing on the history of the profession, logistics of interpreting situations, regulatory and legislative issues, resources and the code of ethics. Describes the state quality assurance screening and national certification exam systems, including test procedures. Lecture 3 hours per week. Generally offered fall.

Legal Administration (LGL)
LGL 110 Introduction to Law and the Legal Assistant (3 Cr.)
Introduces various areas of law in which a legal assistant may be employed. Includes study of the court system (Virginia and federal) as well as a brief overview of criminal law, torts, domestic relations, evidence, ethics, the role of the legal assistant and other areas of interest. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Occasionally offered summer.

LGL 115 Real Estate Law for Legal Assistants (3 Cr.)
Studies law of real property and gives in-depth survey of the more common types of real estate transactions and conveyances such as deeds, contracts, leases and deeds of trust. Focuses on drafting these various instruments and studies the system of recording and search of public documents. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered fall.

LGL 117 Family Law (3 Cr.)
Studies elements of a valid marriage, grounds for divorce and annulment, separation, defenses, custody, support, adoptions and applicable tax consequences. Includes property settlement, pre- and ante-nuptial agreements, pleadings and rules of procedure. May include specific federal and Virginia consumer laws. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered fall.

LGL 125 Legal Research (3 Cr.)
Provides an understanding of various components of a law library and emphasizes research skills through the use of digests, encyclopedias, reporter systems, codes, Shepard’s Citations, ALR and other research tools. May include overview of computer applications and writing projects. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered summer.

LGL 126 Legal Writing (3 Cr.)
Studies proper preparation of various legal documents, including case and appeal briefs, legal memoranda, letters and pleadings. Involves practical applications. Requires competence in English grammar. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered fall.

LGL 127 Legal Research and Writing (3 Cr.)
Provides a basic understanding of legal research and the proper preparation of legal documents, including brief writing. Prerequisite: ENG 111 or permission of division. Lecture 3 hours per week. Generally offered summer.

LGL 130 Law Office Administration & Management (3 Cr.)
Introduces management principles and systems applicable to law firms, including record keeping, disbursements, escrow accounts, billing and purchasing. May include accounting methods and software packages applicable to law firms. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered fall.

LGL 200 Ethics for the Legal Assistant (1 Cr.)
Examines general principles of ethical conduct applicable to legal assistant. Includes the application of rules of ethics to the practicing legal assistant. Reading prerequisite and ENG 111 placement required. Lecture 1 hour per week. Generally offered fall.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Reading Prerequisite</th>
<th>Length</th>
<th>Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGL 215</td>
<td>Torts (3 Cr.)</td>
<td>Studies fundamental principles of the law of torts, including preparation and use of pleadings and other documents involved in the trial of a civil action. Emphasizes personal injury and medical malpractice cases. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week.</td>
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<td>3 Cr.</td>
<td>Spring</td>
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<tr>
<td>LGL 216</td>
<td>Trial Preparation and Discovery Practice (3 Cr.)</td>
<td>Examines the trial process, including the preparation of a trial notebook, pretrial motions, and orders. May include preparation of interrogatories, depositions, and other discovery tools used in assembling evidence in preparation for the trial or an administrative hearing. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week.</td>
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<td>3 Cr.</td>
<td>Spring</td>
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<tr>
<td>LGL 217</td>
<td>Trial Practice and the Law of Evidence (3 Cr.)</td>
<td>Introduces civil and criminal evidence; kinds, degrees and admissibility of evidence; and methods and techniques of its acquisition. Emphasizes Virginia and federal rules of evidence. Focuses on elements of a trial and various problems associated with the trial of a civil or criminal case. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week.</td>
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<td>3 Cr.</td>
<td>Spring</td>
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<tr>
<td>LGL 218</td>
<td>Criminal Law (3 Cr.)</td>
<td>Focuses on major crimes, including their classification, elements of proof, intent, conspiracy, responsibility, parties and defenses. Emphasizes Virginia law. May include general principles of applicable constitutional law and criminal procedure. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week.</td>
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<td>3 Cr.</td>
<td>Fall</td>
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<tr>
<td>LGL 225</td>
<td>Estate Planning and Probate (3 Cr.)</td>
<td>Introduces various devices used to plan an estate, including wills, trust, joint ownership and insurance. Considers various plans in light of family situations and estate objectives. Focuses on practices involving administration of an estate including taxes and preparation of forms. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week.</td>
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<td>3 Cr.</td>
<td>Fall</td>
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<tr>
<td>LGL 230</td>
<td>Legal Transactions (3 Cr.)</td>
<td>Introduces commercial principles and practices and Uniform Commercial Code. Emphasizes contracts, warrants, title, consideration, performance, parties, subject matter and remedies for breach, torts, sales, negotiable instruments, consumer protection, insurance, wills and inheritance, bankruptcy and statute of limitations. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week.</td>
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<td>3 Cr.</td>
<td>Spring</td>
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<tr>
<td>LGL 234</td>
<td>Intellectual Property Law (3 Cr.)</td>
<td>Presents outline of federal copyright and federal and state trademark law. Examines the functions of legal assistants in preparing registrations as well as infringement litigation. Covers related areas of law including trade secrecy and differences between various types of intellectual property. Examines the basics of patent law. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Occasionally offered summer.</td>
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<tr>
<td>LGL 235</td>
<td>Legal Aspects of Business Organizations (3 Cr.)</td>
<td>Examines lawyer's role in the formation of business entities, including sole proprietorship, partnerships and corporations and other business vehicles. Studies fundamental principles of law applicable to each and the preparation of the documents necessary for organization and operation. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered fall.</td>
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<tr>
<td>LGL 236</td>
<td>Elder Law (3 Cr.)</td>
<td>Explores the legal issues affecting the elderly population such as Social Security, Supplemental Security Income (SSI), Medicare, Medicaid, long-term care insurance, retirement, housing and long-term care options, age discrimination, elder abuse and neglect, and estate and planning issues related to incapacity, guardianship, advanced medical directives, power-of-attorney, and end of life decisions. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered fall.</td>
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<tr>
<td>LGL 238</td>
<td>Bankruptcy (3 Cr.)</td>
<td>Provides a practical understanding of non-bankruptcy alternatives and the laws of bankruptcy including Chapters 7, 11, 12 and 13 of the Bankruptcy Code. Emphasizes will be placed on preparing petitions, schedules, statements, and other forms. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered summer and fall.</td>
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<tr>
<td>LGL 250</td>
<td>Immigration Law (3 Cr.)</td>
<td>Provides and introduction to immigration law and policy, giving an overview of the United States legal system that regulates the admission, exclusion, removal and naturalization of immigrants. Includes issues concerning refugees, asylum seekers, illegal immigrants, and undocumented aliens. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered summer.</td>
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<td>3 Cr.</td>
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**Marketing (MKT)**

**MKT 100 Principles of Marketing (3 Cr.)**

Presents principles, methods and problems involved in the marketing of goods, services and ideas to consumers and organizational buyers. Discusses present-day problems and policies connected with distribution and sale of products, pricing, promotion and buyer motivation. Examines variations of the marketing mix and market research, plus legal, social, ethical and international considerations in marketing. Lecture 3 hours per week. Generally offered fall and spring.

**MKT 228 Promotion (3 Cr.)**

Presents an overview of promotion activities including advertising, visual merchandising, publicity and sales promotion. Focuses on coordinating these activities into an effective campaign to promote sales for a particular product, business, institution, or industry. Emphasizes budgets, selecting media and analyzing the effectiveness of the campaign. Lecture 3 hours per week. Generally offered spring.

**MKT 271 Consumer Behavior (3 Cr.)**

Examines the various influences affecting consumer buying behavior before, during and after product purchase. Describes personal, societal, cultural, environmental, group and economic determinants on consumer buying. Lecture 3 hours per week. Generally offered summer.

**MKT 282 Principles of E-Commerce (3 Cr.)**

Studies online business strategies and the hardware and software tools necessary for Internet commerce. Includes the identification of appropriate target segments, the development of product opportunities, pricing structures, distribution channels and execution of marketing strategies. Lecture 3 hours per week. Generally offered fall and spring.

**Mathematics (MTH)**

**MTE 1 Operations-Positive Fractions (1 Cr.)**

Includes operations and problem solving with proper fractions, improper fractions, and mixed numbers without the use of a calculator. Emphasizes applications and includes U. S. customary units of measure. Credit is not applicable toward graduation. Prerequisite(s): Qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTE 2 Operations-Positive Dec & Percents (1 Cr.)**

Includes operations and problem solving with positive decimals and percents. Emphasizes applications and includes U. S. customary and metric units of measure. Credit is not applicable toward graduation. Prerequisite(s): MTE 1 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTE 3 Algebra Basics (1 Cr.)**

Includes basic operations with algebraic expressions and solving simple algebraic equations using signed numbers with emphasis on applications. Credit is not applicable toward graduation. Prerequisite(s): MTE 2 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTE4 First Degree Equations and Inequalities in One Variable (1 Cr.)**

Includes solving first degree equations and inequalities containing one variable, and using them to solve application problems. Emphasizes applications and problem solving. Credit is not applicable toward graduation. Prerequisite(s): MTE 3 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTE 5 Linear Equations, Inequalities and Systems of Linear Equations in Two Variable (1 Cr.)**

Includes finding the equation of a line, graphing linear equations and inequalities in two variables and solving systems of two linear equations. Emphasizes writing and graphing equations using the slope of the line and points on the line, and applications. Credit is not applicable toward graduation. Prerequisite(s): MTE 4 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTE 6 Exponents, Factoring and Polynomial Equations (1 Cr.)**

The student will learn to perform operations on exponential expressions and polynomials. Students will also learn techniques to factor polynomials and use these techniques to solve polynomial equations. Emphasis should be on learning all the different factoring methods, and solving application problems using polynomial equations. Credit is not applicable toward graduation. Lecture 1 hour per week. Generally offered all semesters.

**MTE 7 Rational Expressions and Equations (1 Cr.)**

Includes simplifying rational algebraic expressions, solving rational algebraic equations and solving applications that use rational algebraic equations. Credit is not applicable toward graduation. Prerequisite(s): MTE 6 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTE 8 Rational Exponents and Radicals (1 Cr.)**

Includes simplifying radical expressions, using rational exponents, solving radical equations and solving applications using radical equations. Credit is not applicable toward graduation. Prerequisite(s): MTE 7 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.
**Course Descriptions**

**MTH 9 Functions, Quadratic Equations and Parabolas (1 Cr.)**
Includes an introduction to functions in ordered pair, graph, and equation form. Also introduces quadratic functions, their properties and their graphs. Credit is not applicable toward graduation. Prerequisite(s): MTE 8 or qualifying placement score. Lecture 1 hour per week. Generally offered all semesters.

**MTH 103-104 Applied Technical Mathematics I-II (3 Cr.) (3 Cr.)**
Presents a review of arithmetic, elements of algebra, geometry and trigonometry. Directs applications to specialty areas. Prerequisites: Competency in Math Essentials MTE 1-3 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Offered periodically.

**MTH 115-116 Technical Mathematics I- II (3 Cr.) (3 Cr.)**
Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry and complex numbers. Prerequisites: Competency in Math Essentials MTE 1-6 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Generally offered fall.

**MTH 120 Introduction to Mathematics (3 Cr.)**
Introduces number systems, logic, basic algebra, systems of equations and descriptive statistics. Prerequisites: Competency in Math Essentials MTE 1-3 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. (Intended for occupational/technical programs.) Lecture 3 hours per week. Generally offered all semesters.

**MTH 126 Mathematics for Allied Health (3 Cr.)**
Presents scientific notation, precision and accuracy, decimals and percents, ratio and proportion, variation, simple equations, techniques of graphing, use of charts and tables, logarithms and the metric system. Prerequisites: Competency in Math Essentials MTE 1-3 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Generally offered all semesters.

**MTH 147 Elem/Tech Math for Electrical and Mech. Trades (4 Cr.)**
Focuses on algebra and trigonometry, including first- and second-degree equations, system of equations, determinants, factoring, functions, graphs, triangles, vectors and the metric system. Emphasizes trade applications. Prerequisites: a placement approval for MTH 147 and Algebra I and Geometry, or Algebra I and Algebra II, or equivalent. Lecture 4 hours per week. Offered periodically.

**MTH 150 Topics in Geometry (3 Cr.)**
Presents the fundamentals of plane and solid geometry and introduces non-Euclidean geometries and current topics. Prerequisites: Competency in Math Essentials MTE 1-5 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Offered periodically.

**MTH 151 Mathematics for the Liberal Arts I (3 Cr.)**
Presents topics in sets, logic, numeration systems, geometric systems and elementary computer concepts. Prerequisites: Competency in Math Essentials MTE 1-5 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Generally offered all semesters.

**MTH 152 Mathematics for the Liberal Arts II (3 Cr.)**
Presents topics in functions, combinations, probability, statistics and algebraic systems. Prerequisites: Competency in Math Essentials MTE 1-5 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Generally offered all semesters.

**MTH 158 College Algebra (3 Cr.)**
Covers the structure of complex number systems, polynomials, rational expressions, graphing, systems of equations and inequalities and functions, quadratic and rational equations and inequalities. Lecture 3 hours per week. Generally offered all semesters.

**MTH 163 Precalculus I (3 Cr.)**
Presents college algebra, matrices and algebraic, exponential and logarithmic functions. Prerequisites: Competency in Math Essentials MTE 1-9 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. Lecture 3 hours per week. Generally offered all semesters.

**MTH 164 Precalculus II (3 Cr.)**
Presents trigonometry, analytic geometry and sequences and series. Prerequisite: MTH 163 or equivalent. Lecture 3 hours per week. Generally offered all semesters.

**MTH 173 Calculus with Analytic Geometry I (5 Cr.)**
Presents analytic geometry and the calculus of algebraic and transcendental functions including the study of limits, derivatives, differentials and introduction to integration along with their applications. Designed for mathematical, physical and engineering science programs. Prerequisites: a placement recommendation for MTH 173 and four units of high school mathematics including Algebra I, Algebra II, Geometry and Trigonometry or equivalent. Lecture 5 hours per week. Generally offered fall and spring.
Course Descriptions

MTH 174 Calculus with Analytic Geometry II (5 Cr.)
Continues the study of analytic geometry and the calculus of algebraic and transcendental functions including rectangular, polar and parametric graphing, indefinite and definite integrals, methods of integration and power series along with applications. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 173 or equivalent. Lecture 5 hours per week. Generally offered spring.

MTH 240 Statistics (3 Cr.)
Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Prerequisites: a placement recommendation for MTH 240 and MTH 163 or MTH 166 or equivalent. Lecture 3 hours per week. Generally offered all semesters.

MTH 271 Applied Calculus I (3 Cr.)
Presents limits, continuity, differentiation of algebraic and transcendental functions with applications and an introduction to integration. Prerequisite: MTH 163 or MTH 166 or equivalent. Lecture 3 hours per week. Generally offered all semesters.

Mechanical Engineering Technology (MEC)
MEC 113 Materials and Processes of Industry (3 Cr.)
Studies industrial/engineering materials and accompanying industrial processes. Investigates nature of materials structure and properties from a design standpoint, leading to a more intelligent selection of a material to fit the requirements of a part or product. Analyzes the effects of the various processes on materials, as well as the processes themselves to ensure a logical and systematic procedure for selection of materials. Lecture 3 hours per week. Generally offered fall.

MEC 120 Principles of Machine Technology (3 Cr.)
Studies fundamental machine operations and practices, including layout, measuring devices, hand tools, drilling, reaming, turning between corners, cutting tapers and threads and milling; fabrication of mechanical parts on drill press, lathe and mill. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Offered occasionally, as needed.

Medical Assisting (MDA)
MDA 203 Medical Office Procedures (3 Cr.)
Instructs the student in the practice of the management of medical offices in areas such as receptionist duties, telephone techniques, appointment scheduling, verbal and written communications, medical and non-medical record management. Explains library and editorial duties, inventory, care of equipment and supplies, security, office maintenance, management responsibilities, placement and professional ethics and professionalism. Reading prerequisite and ENG 111 placement required. Lecture 3 hours per week. Generally offered spring.

MDA 206 Medical Office Bookkeeping and Insurance (4 Cr.)
Instructs the student in the practice of bookkeeping and insurance programs, laws, and the processing of claim forms. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Generally offered summer.

MDA 207 Medical Law and Ethics (2 Cr.)
Instructs the student in the legal relationships of the physician, patient and medical assistant; professional liabilities, Medical Practice Acts, professional attitudes and behavior and the types of medical practice. Also includes a basic history of medicine. Reading prerequisite and ENG 111 placement required. Lecture 2 hours per week. Generally offered fall and spring.
Course Descriptions

Medical Laboratory (MDL)
MDL 105 Phlebotomy (3 Cr.)
Introduces basic medical terminology, anatomy, physiology, components of health care delivery and clinical laboratory structure. Teaches techniques of specimen collection, specimen handling, and patient interactions. **Prerequisite: MDL 105.** Lecture 3 hours. Generally offered summer and fall.

MDL 106 Clinical Phlebotomy (4 Cr.)
Focuses on obtaining blood specimens, processing specimens, managing assignments, assisting with and/or performing specified tests, performing clerical duties and maintaining professional communication. Provides supervised learning college laboratory and/or cooperating agencies. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. Generally offered fall and spring.

Music (MUS)
MUS 111 Music Theory I (4 Cr.)
Discusses elements of musical construction of scales, intervals, triads, and chord progressions. Develops ability to sing at sight and write from dictation. Introduces the analysis of the Bach chorale style. Expands facility with harmonic dictation and enables the student to use these techniques at the keyboard. Part I of II . Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week. Generally offered fall.

MUS 112 Music Theory II (4 Cr.)
Discusses elements of musical construction of scales, intervals, triads, and chord progressions. Develops ability to sing at sight and write from dictation. Introduces the analysis of the Bach chorale style. Expands facility with harmonic dictation and enables the student to use these techniques at the keyboard. Part II of II. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week. Generally offered spring.

MUS 121-122 Music Appreciation I-II (3Cr.) (3 Cr.)
Increases the variety and depth of the student’s interest, knowledge, and involvement in music and related cultural activities. Acquaints the student with traditional and twentieth century music literature, emphasizing the relationship music has as an art form with man and society. Increased the student’s awareness of the composers and performers of all eras through listening and concert experiences. Lecture 3 hours per week. Generally offered fall and spring.

MUS 136 Applied Music-Voice (1-2 Cr.)
Teaches singing, proper breath control, diction, and development of tone. Studies the standard vocal repertoire. **Prerequisite divisional approval.** Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. One or two half-hour lessons per week. Four to eight hours practice required. Laboratory 4-8 hours per week. Generally offered fall and spring.

MUS 137 Chorus Ensemble (1-2 Cr.)
Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. **Divisional approval required.** May be repeated for credit. Laboratory 3-6 hours per week. Generally offered fall and spring.

MUS 163 Guitar Theory and Practice I (3 Cr.)
Studies the fundamentals of sound production, music theory, and harmony as they apply to guitar. Builds proficiency in both the techniques of playing the guitar and in the application of music fundamentals to these techniques. Presents different types of guitars and related instruments. Emphasizes music as entertainment and as a communication skill. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Generally offered fall and spring.

MUS 164 Guitar Theory and Practice II (3 Cr.)
Studies the fundamentals of sound production, music theory, and harmony as they apply to guitar. Builds proficiency in both the techniques of playing the guitar and in the application of music fundamentals to these techniques. Presents different types of guitars and related instruments. Emphasizes music as entertainment and as a communication skill. Part II of II. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Generally offered spring.

MUS 165 Applied Music - Strings (1-2 Cr.)
Teaches fundamentals of string instruments, harp, or guitar. Studies the standard repertoire. **Prerequisite: divisional approval.** Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. 1-2 half-hour lessons per week, 4-8 hours practice (laboratory) required. Laboratory 4-8 hours per week. Generally offered fall and spring; periodically summer.
MUS 185 Applied Music - Percussion (1-2 Cr.)
Teaches fundamentals of percussion instruments. Studies the standard repertoire. Prerequisite divisional permission. Private lessons are available for either 1 or 2 hours of credit per semester. The length of the lessons will be 1/2 hour for 1 hour credit and 1 hour for 2 hours credit per semester. All courses in applied music may be repeated for a total of 8 hours for the major and 4 hours for the minor. 1-2 half-hour lessons per week, 4-8 hours practice (laboratory) required. Laboratory 4-8 hours per week. Offered fall and spring.

NUR 115 LPN Transition (2 Cr.)
Introduces the role of the registered nurse through concepts and skill development in the discipline of professional nursing. This course serves as a bridge course for licensed practical nurses and is based upon individualized articulation agreements, mobility exams or other assessment criteria as they relate to local programs and service areas. Includes math computational skills and basic computer instruction related to the delivery of nursing care. (This course has been approved by the vice chancellor as an exception to the variable credit policy.) Lecture 22 hours per week. Laboratory 23 hours per week. Total 45 hours per week. Generally offered summer.

NUR 116 Selected Nursing Concepts (2 Cr.)
Introduces selected basic skills and concepts in the discipline of nursing and their incorporation into care to meet the changing standards of nursing practice. Intended as a transition/refresher course for transfer and returning students. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered summer and fall.

NUR 136 Principles of Pharmacology I (2 Cr.)
Teaches principles of medication administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, drug action on specific body systems and basic computer applications. Lecture 2 hours per week. Generally offered spring.

NUR 180 Essentials of Maternal/Newborn Nursing (3 Cr.)
Utilizes the concepts of the nursing process in caring for families in the antepartum, intrapartum and postpartum periods. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Prerequisite NUR 136. Prerequisite or corequisite BIO 150. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Generally offered fall.

NUR 199 Supervised Study (1 Cr.)
Assigns problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Occasionally offered spring.
NUR 200 - Essentials of Mental Health Nursing (3 Cr.)
Utilizes the concepts of the nursing process in caring for individuals, families, and/or groups with mental health needs across the life span. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Prerequisites to be determined by local college. Lecture 2 hours. Laboratory 2-3 hours. Total 4-5 hours per week. Generally offered spring semester.

NUR 203 Introduction to Mental Health Nursing (2 Cr.)
Utilizes the concepts of the nursing process in caring for individuals, families and/or groups with mental health needs across the life span. Includes math experiences in college nursing laboratories and/or cooperating agencies. Prerequisite (1st year nursing course work). Lecture 1 hour. Laboratory 3 hours per week. Total 4 hours per week. Generally offered spring.

NUR 221-222 Second Level Nursing Principles and Concepts I-II (9 Cr.) (9 Cr.)
Focuses on nursing care of individuals, families and/or groups with multidimensional needs in a variety of settings. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Prerequisites: for NUR 221 are NUR 180 and NUR 203. Prerequisite: for NUR 222 is NUR 221. Lecture 4 hours per week. Laboratory 15 hours per week. Total 19 hours per week. NUR 221 generally offered fall; NUR 222 generally offered spring.

NUR 226 Health Assessment (2-3 Cr.)
Teaches the systematic approach to obtaining a health history and performing a physical assessment. Lecture 1 hours. Laboratory 2 hours per week. Total 3 hours per week. Generally offered spring.

NUR 255 Nursing Organization and Management (2 Cr.)
Addresses management and organizational skills as they relate to nursing. Emphasizes group dynamics, resolution of conflicts and leadership styles. Lecture 2 hours per week. Generally offered spring.

Philosophy (PHI)
PHI 100 Introduction to Philosophy (3 Cr.)
Presents an introduction to philosophical problems and perspectives with emphasis on the systematic questioning of basic assumptions about meaning, knowledge, reality and values. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

PHI 115 - Practical Reasoning (3 Cr.)
Studies informal logic and language techniques as they relate to reasoning and argument. Provides practice in analyzing arguments and constructing sound arguments. Lecture 3 hours per week. Generally offered all semesters.

PHI 220 Ethics (3 Cr.)
Provides a systematic study of representative ethical systems. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

PHI 227 Bio-Medical Ethics (3 Cr.)
Examines the ethical implications of specific biomedical issues in the context of major ethical systems. Reading prerequisite required. Lecture 3 hours per week. Generally offered spring.

Photography (PHT)
PHT 101-102 Photography I-II (3 Cr.) (3 Cr.)
Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Lecture 1 hour per week. Laboratory 4 hours per week. Total 5 hours per week. Generally offered fall and spring.

PHT 107 Nature Photography (3 Cr.)
Teaches fundamentals of color photography of natural objects. Emphasizes selection and use of equipment simple digital workflow, format selection for professional imaging, compositional techniques and color theory. Lecture 2 hours. Total 4 hours per week. Generally offered fall and spring.

PHT 135 Electronic Darkroom (3 Cr.)
Teaches students to create and manipulate digital photographs. Covers masking, color corrections, and merging of illustrations with photographs. Examines the ethical and property-rights issues which are raised in the manipulation of images. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week. Offered periodically.

PHT 201-202 Advanced Photography I-II (3 Cr.) (3 Cr.)
Provides weekly critiques of students’ work. Centers on specific problems found in critiques. Includes working procedures and critical skills in looking at photographs. Prerequisite: PHT 102 or equivalent. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Offered periodically.
PHT 211-212 Color Photography I-II (3 Cr.) (3 Cr.)
Introduces theory, materials and processes of modern color images. Includes additive and subtractive theory, color filtration and negative and positive printing techniques. Prerequisite: PHT 101 or equivalent. Prerequisite for 212: PHT 211. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Offered periodically.

PHT 216 Wildlife Photography (3 Cr.)
An advanced course in the photography of natural objects. Emphasis will be placed on critiquing the student’s photographic work. Use of natural lighting, flash photography and diffusion techniques will be emphasized. Offers seminars on specific subject areas such as animals, plants, birds, insects and wilderness scenes. Prerequisite: PHT 107 or instructor approval. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Offered periodically.

PHT 227 Photographic Careers (3 Cr.)
Teaches the techniques of small photographic business operations. Includes portfolio preparation and presentation and basic marketing techniques. Covers theory of marketing, costing procedures and problems, legal accounting problems, copyright and fundamentals of small photographic business operation. Lecture 3 hours per week. Offered periodically.

PHT 264 Digital Photography (3 Cr.)
Teaches theory and practice of digital photography. Emphasizes use of digital cameras in studio and on location. Teaches advanced techniques of image editing. Provides training in digital image transmission from remote locations. Extensive work in Adobe Photoshop. Prerequisites: PHT 101 and ART 283. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week. Offered periodically.

Physical Education and Recreation (PED)
PED 107 Exercise and Nutrition (2 Cr.)
Provides the student with a full body workout through flexibility, strength and cardiovascular endurance exercises. Includes fitness evaluation, nutrition analysis and weight control. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. Generally offered all semesters.

PED 109 Yoga (2 Cr.)
Focuses on the forms of yoga training emphasizing flexibility. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. Generally offered all semesters.

PED 111-112 Weight Training I-II (2 Cr.) (2 Cr.)
Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight training equipment. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. Generally offered fall and spring.

PED 113 Lifetime Activities I (2 Cr.)
Presents lifetime sports and activities. Teaches skills and methods of lifetime sports and activities appropriate to the local season and facilities available. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered all semesters.

PED 116 Lifetime Fitness and Wellness (1 Cr.)
Provides a study of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student’s level of fitness and wellness and motivates the student to incorporate physical fitness and wellness into daily living. Laboratory 2 hours per week. Total 2 hours per week. Generally offered all semesters.

PED 117 Fitness Walking (1 Cr.)
Teaches content and skills needed to design, implement and evaluate an individualized program of walking, based upon fitness level. Laboratory 2 hours per week. Total 2 hours per week. Generally offered all semesters.

PED 133-134 Golf I-II (2 Cr.) (2 Cr.)
Teaches basic skills of golf, rules, etiquette, scoring, terminology, equipment selection and use and strategy. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered fall and spring.

PED 135-136 Bowling I-II (2 Cr.) (2 Cr.)
Teaches basic bowling skills and techniques, scoring, rules, etiquette and terminology. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered fall and spring.

PED 147 Hiking (2 Cr.)
Introduces physical and mental benefits of walking or hiking as a form of physical exercise. Skills developed include how to plan for a hike, what to take, and how to select a trail relative to individual abilities. Provides hiking opportunities to explore local regions. Develops awareness of safety, weather, and ecological considerations. Laboratory 2-4 hours per week. Generally offered spring.
PED 149 Cardio Sculpt I (2 Cr.)
Combines strength training and cardiovascular workouts that strengthen the major muscle groups as well as developing endurance. Utilizes the use of weights, balls and bands, fitness equipment or a combination thereof that promote cardiovascular endurance and develops muscle strength. Benefits all levels of participation. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. Generally offered fall and spring.

PED 161 Dance Production I (1-2 Cr.)
Focuses on creating a dance performance. Teaches the basic skills in creating and producing a dance. Includes lighting, costumes, music, and choreography. Part I of II. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week. Offered at Fauquier only.

PED 187 Backpacking (2 Cr.)
Focuses on the preparation for backpacking trip, equipment and clothing selection, personal and group safety, ecology and physical conditioning. Includes field experience. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week. Generally offered fall and spring.

Physics (PHY)

PHY 101-102 Introduction to Physics I-II (4 Cr.) (4 Cr.)
Surveys general principles of physics. Includes topics such as force and motion, energy, heat, sound, light, electricity and magnetism and modern physics. Reading prerequisite required. PHY 101 prerequisite to PHY 102. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Generally offered all semesters.

PHY 201-202 General College Physics I-II (4 Cr.) (4 Cr.)
Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism and selected topics in modern physics. Reading prerequisite required. Prerequisite: MTH 163 or equivalent. PHY 201 prerequisite to PHY 202. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Generally offered fall and spring.

PHY 241-242 University Physics I-II (4 Cr.) (4 Cr.)
Teaches principles of classical and modern physics. Includes mechanics, wave phenomena, heat, electricity, magnetism, relativity and nuclear physics. Reading prerequisite required. Prerequisite for PHY 241 is MTH 173 or divisional approval. Prerequisite for PHY 242 is MTH 174 or divisional approval. PHY 241 prerequisite to PHY 242. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week. Generally offered fall and spring.

PHY 243 Modern Physics (4 Cr.)
Teaches principles of modern physics. Includes in-depth coverage of relativity, quantum physics, solid state and nuclear physics. For major requiring calculus-based physics. Reading prerequisite required. Prerequisite: PHY 241-242 or equivalent. Lecture 3 hours per week. Laboratory 2-3 hours per week. Total 5-6 hours per week. Generally offered fall and spring.

Political Science (PLS)

PLS 135 American National Politics (3 Cr.)
Teaches political institutions and processes of the national government of the United States, focuses on the Congress, presidency and the courts and on their inter-relationships. Gives attention to public opinion, suffrage, elections, political parties, interest groups, civil rights, domestic policy and foreign relations. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

PLS 211-212 U.S. Government I-II (3 Cr.) (3 Cr.)
Teaches structure, operation and process of national, state and local governments. Includes in-depth study of the three branches of the government and of public policy. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

PLS 241 International Relations I (3 Cr.)
Teaches geographic, demographic, economic, ideological and other factors conditioning the policies of countries and discusses conflicts and their adjustments. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

PLS 242 International Relations II (3 Cr.)
Teaches foreign policies of the major powers in the world community with an emphasis on the role of the United States in international politics. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

Practical Nursing (PNE)

PNE 136 Care of Maternal Newborn and Pediatric Patients (4 Cr.)
Examines pregnancy, childbirth, post-partum and newborn care from a family-centered approach. Covers complications related to childbearing, emphasizes growth and development and exploration of common childhood disorders at various stages. Lecture 4 hours per week. Generally offered spring.

PNE 143 Applied Nursing Skills (1 Cr.)
Applies principles and procedures essential to the basic nursing care of patients. Laboratory 3 hours per week. Instructor permission required. Generally offered fall.
PNE 145 Trends in Practical Nursing (1 Cr.)
Studies the role of the Licensed Practical Nurse. Covers legal aspects, organizations and opportunities in practical nursing. Assists students in preparation for employment. Prerequisite: PNE 162. Lecture 1 hour per week. Generally offered summer.

PNE 158 Mental Health and Psychiatric Nursing (1 Cr.)
Recognizes emotional needs of patients. Provides knowledge of the role that emotions play. Enables students to understand their own behavior as well as patient behavior. Prerequisite: PNE 162. Lecture 1 hour per week. Generally offered summer.

PNE 161 Nursing in Health Changes I (6 Cr.)
Focuses on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Prerequisite: Admission to Practical Nursing Program. Lecture 3 hours per week. Laboratory 9 hours per week. Total 12 hours per week. Generally offered fall.

PNE 162 Nursing in Health Changes II (11 Cr.)
Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Prerequisites: ENG 111, BIO 100, PNE 161, PNE 174, PSY 230, SDV 101. Lecture 5 hours per week. Laboratory 16 hours per week. Total 21 hours per week. Generally offered spring.

PNE 164 Nursing in Health Changes IV (10 Cr.)
Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Prerequisite: PNE 162. Lecture 6 hours per week. Laboratory 12 hours per week. Total 18 hours per week. Generally offered summer.

PNE 174 Applied Pharmacology for Practical Nurses (2 Cr.)
Applies problem-solving skills in preparing and administering medications. Prerequisite: Admission to Practical Nursing Program. Lecture 1 hour per week. Laboratory 3 hours per week. Total 4 hours per week. Generally offered fall.

PNE 175 Introduction to Supervision and Management for Practical Nurses (1 Cr.)
Addresses skills related to leadership and the management of care of clients in a variety of settings to ensure quality nursing care. Prerequisite: PNE 162. Lecture 15 hours per semester. Generally offered summer.

Psychology (PSY)
PSY 200 Principles of Psychology (3 Cr.)
Surveys the basic concepts of psychology. Covers the scientific study of behavior, behavioral research methods and analysis and theoretical interpretations. Includes topics that cover physiological mechanisms, sensation/perception, motivation, learning, personality, psychopathology, therapy and social psychology. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

PSY 205 Personal Conflict and Crisis Management (3 Cr.)
Studies the effective recognition and handling of personal and interpersonal conflicts. Discusses cooperative roles of public and private agencies, management of family disturbances, child abuse, rape, suicide and related cases. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

PSY 215 Abnormal Psychology (3 Cr.)
Explores historical views and current perspectives of abnormal behavior. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior and types of therapy. Includes methods of clinical assessment and research strategies. Reading prerequisite required. Prerequisite: PSY 200, 201, or 202. Lecture 3 hours per week. Generally offered all semesters.

PSY 216 Social Psychology (3 Cr.)
Examines individuals in social contexts, their social roles, group processes and intergroup relations. Includes topics such as small group behavior, social behavior, social cognition, conformity, attitudes and motivation. Reading prerequisite required. Prerequisite: PSY 200, 201, or 202. Lecture 3 hours per week. Offered periodically.

PSY 230 Developmental Psychology (3 Cr.)
Studies the development of the individual from conception to death. Follows a life-span perspective on the development of the person’s physical, cognitive and psychosocial growth. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

PSY 235 Child Psychology (3 Cr.)
Studies development of the child from conception to adolescence. Investigates physical, intellectual, social and emotional factors involved in the child’s growth. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.
PSY 236 Adolescent Psychology (3 Cr.)
Studies development of the adolescent. Investigates physical, intellectual, social and emotional factors of the individual from late childhood to early adulthood. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

PSY 245 Educational Psychology (3 Cr.)
Explores human behavior and learning in the educational context. Investigates the nature of various mental characteristics such as intelligence, interest, and knowledge. Examines their measurement and appraisal and their significance for educational goals. Prerequisite: PSY 200. Lecture 3 hours per week. Offered periodically.

PSY 255 Psychological Aspects of Criminal Behavior (3 Cr.)
Studies psychology of criminal behavior. Includes topics such as violent and nonviolent crime, sexual offenses, insanity, addiction, white collar crime, and other deviant behaviors. Provides a background for law enforcement occupations. Reading prerequisite required. Prerequisite: PSY 200, 201, 202 or instructor approval. Lecture 3 hours per week. Offered periodically.

PSY 265 Psychology of Men and Women (3 Cr.)
Examines the major determinants of sex differences. Emphasizes psychosexual differentiation and gender identity from theoretical, biological, interpersonal, and sociocultural perspectives. Includes topics such as sex roles, socialization, rape, abuse, and androgyny. Prerequisite: PSY 200. Lecture 3 hours per week. Offered periodically.

PSY 270 Psychology of Human Sexuality (3 Cr.)
Focuses on scientific investigation of human sexuality and psychological and social implications of such research. Considers socio-cultural influences, the physiology and psychology of sexual response patterns, sexual dysfunctions, and development of relationships. Prerequisite: PSY 200, PSY 201 or PSY 202. Lecture 3 hours per week. Generally offered fall and spring.

REL 200 Survey of the Old Testament (3 Cr.)
Surveys books of the Old Testament, with emphasis on prophetic historical books. Examines the historical and geographical setting and place of the Israelites in the ancient Middle East as background to the writings. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

REL 210 Survey of the New Testament (3 Cr.)
Surveys books of the New Testament, with special attention upon placing the writings within their historical and geographical setting. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

REL 215 New Testament and Early Christianity (3 Cr.)
Surveys the history, literature and theology of early Christianity in the light of the New Testament. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

REL 217 Life and Letters of Paul (3 Cr.)
Studies the journeys and religious thought of the apostle Paul. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

REL 230 Religions of the World (3 Cr.)
Introduces the religions of the world with attention to origin, history and doctrine. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.

REL 237 Eastern Religion (3 Cr.)
Studies major religious traditions of the East, including Hinduism, Buddhism, Confucianism, Taoism, and Zen Buddhism. Includes an analysis of Eastern philosophy and approach to life. Lecture 3 hours per week. Offered periodically.

REL 240 Religions in American (3 Cr.)
Surveys various manifestations of religion in the American experience. Emphasizes concepts, problems, and issues of religious pluralism and character of American religious life. Lecture 3 hours per week. Offered periodically.

Real Estate (REA)
REA 100 Principles of Real Estate (4 Cr.)
Examines practical applications of real estate principles. Includes a study of titles, estates, land descriptions, contracts, legal instruments, financing and management of real estate. Lecture 4 hours per week. Generally offered fall.

Religion (REL)
REL 100 Introduction to the Study of Religion (3 Cr.)
Explores various religious perspectives and ways of thinking about religious themes and religious experience. Reading prerequisite required. Lecture 3 hours per week. Generally offered all semesters.
Course Descriptions

SOC 207 Medical Sociology (3 Cr.)
Surveys the social, economic, cultural and individual factors in health and illness. Examines issues of wellness, healthcare systems, physician-nurse-patient relationships, medical costs, ethics and policy. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

SOC 210 Survey of Physical and Cultural Anthropology (3 Cr.)
Examines physical characteristics and lifestyles of human ancestors and present populations. Explores cultures from around the world to study diverse adaptations made by humans. Lecture 3 hours per week. Offered periodically.

SOC 211-212 Principles of Anthropology I-II (3 Cr.) (3 Cr.)
Inquires into the origins, development, and diversification of human biology and human cultures. Includes fossil records, physical origins of human development, human population genetics, linguistics, cultures' origins and variation, and historical and contemporary analysis of human societies. Reading prerequisite required. Lecture 3 hours per week. Generally offered fall and spring.

SOC 215 Sociology of the Family (3 Cr.)
Studies topics such as marriage and family in social and cultural context. Addresses the single scene, dating and marriage styles, child rearing, husband and wife interaction, single parent families and alternative lifestyles. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

SOC 266 Minority Group Relations (3 Cr.)
Investigates minorities such as racial and ethnic groups. Addresses social and economic conditions promoting prejudice, racism, discrimination and segregation. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

SOC 268 Social Problems (3 Cr.)
Applies sociological concepts and methods to analysis of current social problems. Includes delinquency and crime, mental illness, drug addiction, alcoholism, sexual behavior, population crisis, race relations, family and community disorganization, poverty, automation, wars and disarmament. Reading prerequisite required. Lecture 3 hours per week. Offered periodically.

Spanish (SPA)

SPA 16 Spanish for Business (2 Cr.)
Introduces the student to Spanish used in business transactions. Lecture 2 hours per week. Offered periodically.

SPA 101-102 Beginning Spanish I-II (4 Cr.) (4 Cr.)
Introduces understanding, speaking, reading and writing skills and emphasizes basic Spanish sentence structure. May include an additional hour of oral drill and practice per week. Prerequisite: SPA 101 for SPA 102. Lecture 4 hours per week. Generally offered all semesters.

SPA 201-202 Intermediate Spanish I-II (3 Cr.) (3 Cr.)
Continues to develop understanding, speaking, reading and writing skills. May include oral drill and practice. Prerequisite: SPA 102 for SPA 201, SPA 201 for SPA 202. Lecture 3 hours per week. Generally offered all semesters.

SPA 271-272 Intro to Latin American Civ. Literature I-II (3 Cr.) (3 Cr.)
Introduces the student to Latin American culture and literature. Readings and discussions conducted in Spanish. Reading prerequisite required. Prerequisite: SPA 202 or equivalent. Lecture 3 hours per week. Offered periodically.

Student Development (SDV)

SDV 100 College Success Skills (1 Cr.)
Assists students in transition to colleges. Provides overviews of college policies, procedures, curricular offerings. Encourages contacts with other students and staff. Assists students toward college success through information regarding effective study habits, career and academic planning and other college resources available to students. May include English and Math placement testing. Strongly recommended for beginning students. Required for graduation. Lecture 1 hour per week. Generally offered all semesters.

SDV 101 Orientation to the Education Professions (1 Cr.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling and advising; listening, test taking and study skills; and topical areas which are applicable to their particular discipline. Lecture 1 hour per week. Generally offered fall and spring.

SDV 101 Orientation to Health Professions (1 Cr.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling and advising; listening, test taking and study skills; and topical areas which are applicable to their particular discipline. Lecture 1 hour per week. Generally offered all semesters.
SDV 101 Orientation to the IT Professions (1 Cr.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling and advising; listening, test taking and study skills; and topical areas which are applicable to their particular discipline. Lecture 1 hour per week. Generally offered all semesters.

SDV 101 Orientation to Visual Arts (1 Cr.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling and advising; listening, test taking and study skills; and topical areas which are applicable to their particular discipline. Lecture 1 hour per week. Generally offered fall and spring.

SDV 298 PLACE Portfolio Development (3 Cr.)
Portfolio development course designed to assist students in the process of synthesizing and organizing life experience with the objectives of specific other courses. Generally offered all semesters.

SUR 93 Introduction to Central Services (3 Cr.)
This course provides the fundamentals of central processing, supply and distribution. Instruction and practice is given in aseptic technique, patient centered practices, and theories, and overall policies and practices of central service. This course must be completed within one term of SUR 293. Prerequisite: Admission into the program. Lecture 3 hours per week. Generally offered fall.

SUR 140 Introduction to Surgical Care (4 Cr.)
Introduces the study of the surgical process, including aspects of the operating room environment. Highlights preparing the patient for surgery, including transporting, positioning and special preparation procedures. Presents physical, psychological and spiritual needs of the patient including ethical and legal rights of the patient. Prerequisite: Admission into the program. Corequisite: BIO 141. Lecture 2 hours per week. Laboratory 3-6 hours per week. Total 5-6 hours per week. Generally offered fall.

SUR 145 - Fundamentals of Surgical Care (4 Cr.)
Introduces principles of aseptic technique, sterilization, disinfection and antisepsis including environmental safety and control, CDC and OSHA requirements. Presents packaging, storing, and dispensing surgical supplies, principles of wound healing including types, stages, and complications; types, preparation and care of surgical supplies, packing, dressings, catheters, drains, tubes, supplies, and equipment; classifications of instruments, sutures and needles. Describes responsibilities related to the scrub and circulating roles. Provides students practical experience in the operating room. Prerequisite: NUR 140. Corequisite: BIO 141. Lecture 2 hours. Laboratory 3-6 hours. Total 5-8 hours per week. Generally offered fall.

SUR 193 Fundamentals of Central Services (3 Cr.)
This course provides an overview of the fundamental concepts and principles necessary to successfully participate as an entry level Central Sterile Processing Technician. Emphasis will be placed on the cleaning, disinfection, and sterilizing process use on instruments and equipment. Inventory management, safety, quality assurance, professional development and healthcare trends will also be discussed. Students completing this course will be eligible to apply to take the International Association of Healthcare Central Service Material Management (IAHCSMM) certification exam. Prerequisite: Admission into the program. Lecture 2 hours per week. Laboratory 1-2 hours per week. Total 3-4 hours per week. Generally offered spring.

SUR 210 Surgical Procedures (8 Cr.)
Introduces the surgical specialties of general; gastroenterology, gynecology; genitourinary, ophthalmology; EENT; dental; oral and maxillofacial; plastic and reconstructive; pediatrics; oncology; neurosurgery; orthopedics; cardiac; thoracic; vascular; transplant; and trauma in a laboratory and clinical experience. Prerequisite: SUR 140, SUR 145. Corequisites: BIO 141, BIO 142. Lecture 4 hours per week. Laboratory 12-15 hours per week. Total 16-19 hours per week. Generally offered spring.

SUR 250 Surgical Pharmacology (2 Cr.)
Introduces pharmacology as it relates to surgical intervention in the operating room. Includes medication calculations, measurements, administration, terminology and handling and a review of certain drug classifications as they relate to surgical patients. (Note: Previously listed as HLT 250, General Pharmacology) Prerequisite: SUR 140. Lecture 2-3 hours per week. Generally offered spring.
SUR 260 Surgical Technology Clinical Practicum (1-5 Cr.)
Provides continued study and extensive clinical experience in all surgical specialties. Emphasis is on clinical practice thereby further enhancing theoretical and practical knowledge of select procedures, surgical instrumentation, supplies and equipment. The scrub and circulating roles of the surgical technologist including aseptic technique and case preparation for select surgical procedures continue to be emphasized. Prerequisite: SUR 140, SUR 145, SUR 210, R.
Corequisite: BIO 141-142, HIM 111. Laboratory 18-24 hours per week. Generally offered summer.

SUR 293 Infection Control (2 Cr.)
Introduces the fundamentals of surgical microbiology. Topics include: historical development of microbiology, cell structure and theory, microbial function, human and pathogen relationships, infectious process, blood borne and airborne pathogens, defense microorganisms, infection control and microbial control and destruction. Prerequisites: Admission into the program; SUR 93. Lecture 3 hours per week. Generally offered fall.

SUR 296 On-site Training (1-5 Cr.)
Specializes in career orientation and training program without pay in selected business and industry, supervised and coordinated by the college. Credit/work ration not to exceed 1:5 hours. May be repeated for credit. Variable hours. Generally offered spring.

Welding (WEL)
WEL 120 Introduction to Welding (3 Cr.)
Introduces history of welding processes. Covers types of equipment and assembly of units. Stresses welding procedures such as fusion, non-fusion and cutting oxyacetylene. Introduces arc welding. Emphasizes procedures in the use of tools and equipment. Lecture 1-2 hours per week. Laboratory 2-3 hours per week. Total 3-5 hours per week. Generally offered fall semester.

WEL 130 Inert Gas Welding (3 Cr.)
Introduces practical operations in use of inert gas shielded arc welding. Studies equipment operation, setup, safety and practice of Gmaw (Mig) and Gtaw (Tig). Lecture 1 hour per week. Laboratory 3 hours per week. Total 4 hours per week. Generally offered spring semester.