

Course Descriptions

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 Learning or the Learning 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 Learning, 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

Course Descriptions

Accounting

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.

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. Lecture 3 hours per week.

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.

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.

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.

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.

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.

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.

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.

Administration of Justice

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.

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.

ADJ 116 Special Enforcement Topics (3 Cr.)

Considers contemporary issues, problems and controversies in modern law enforcement. Lecture 3 hours per week.

Course Descriptions

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Administrative Support Technology

AST 100 Office Skills Review (3 Cr.)

Reviews office skills such as keyboarding, shorthand, machine transcription and other selected office topics based on individual needs. Lecture 3 hours per week.

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.

Course Descriptions

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.

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. Corequisites: ENG 3 and ENG 4 and AST 101. Lecture 3 hours per week.

AST 135 Simulation in Office Procedures (3 Cr.)

Integrates office skills and procedures in a simulated business setting. Prerequisite: AST 102 or equivalent. Lecture 3 hours per week.

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. Prerequisites: ENG 3 and ENG 4 and AST 101 or equivalent. Lecture 3 hours per week.

AST 142 Word Processing II (3 Cr.)

Teaches advanced software applications. Prerequisites: ENG 3 and ENG 4 and AST 141 or equivalent. Lecture 3 hours per week.

AST 205 Business Communications (3 Cr.)

Teaches techniques of oral and written communications. Emphasizes writing and presenting business-related materials. Prerequisites: ENG 3 and ENG 4 and AST 102 or equivalent. Lecture 3 hours per week.

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. Prerequisites: ENG 3 and ENG 4 and AST 102 or equivalent. Lecture 3 hours per week.

AST 230 Introduction to Office Technology (3 Cr.)

Introduces principles, methods and techniques involved in office technology. Emphasizes word processing, microcomputer equipment and software. Prerequisites: ENG 3 and ENG 4. Lecture 3 hours per week.

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 or equivalent. Lecture 3 hours per week.

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. Prerequisites: Reading prerequisite required and AST 101 or equivalent. Lecture 3 hours per week.

AST 236 Specialized Software Applications (3 Cr.)

Teaches specialized integrated software applications on the microcomputer. Emphasizes document production to meet business and industry standards. Prerequisite: AST 101 or equivalent. Lecture 3 hours per week.

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. Prerequisite: ENG 3 and ENG 4 and AST 101. Lecture 3 hours per week.

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. Prerequisites: ENG 3 and ENG 4 and AST 243 or equivalent. Lecture 3 hours per week.

Course Descriptions

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. Prerequisites: ENG 3 and ENG 4 and AST 102 or equivalent, BIO 100 or PNE 155 or BIO 141 & 142 and HIM 111 and HIM 112. Lecture 3 hours per week.

AST 253 Advanced Desktop Publishing I (3 Cr.)

Introduces specific desktop publishing software. Teaches document layout and design, fonts, typestyles, style sheets and graphics. Prerequisite: AST 101 or equivalent and proficiency in the use of a word processing package. Lecture 3 hours per week.

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. Prerequisite: AST 253 or equivalent. Lecture 3 hours per week.

AST 257 WP Desktop Publishing (3 Cr.)

Uses word processing software to teach advanced document preparation. Prerequisite AST 101 or equivalent and experience in using the specified word processing software. Prerequisite: AST 141 or equivalent. Lecture 3 hours per week.

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. Prerequisite: AST 101 or equivalent. Lecture 3 hours per week.

AST 265 Legal Office Procedures I (3 Cr.)

Introduces general office procedures used in law offices and courts. Reading prerequisite required. Corequisite: AST 102 or equivalent. Lecture 3 hours per week.

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. Prerequisites: Reading prerequisite required and AST 265 or equivalent. Lecture 3 hours per week.

Air Conditioning and Refrigeration

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.

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.

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.

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. Prerequisite: AIR 121. Lecture 2-3 hours per week. Laboratory 2-6 hours per week. Total 4-8 hours per week.

Course Descriptions

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.

Architecture

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.

ARC 133 Construction Methodology & Procedures I & II (3 Cr.) Studies materials used in construction of buildings, covering foundations to structural framing systems. Includes appropriate use of materials for various construction types. Includes specifications of materials and installation procedures; types of specifications and writing procedures; bidding procedures and contract documents. Lecture 3 hours per week.

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. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

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.

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.

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.

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.

ART 111-112 Introduction to the Arts I-II (3 Cr.) (3 Cr.)

Parallels studio classes and provides a general survey of the arts. Emphasizes perception, using major monuments of painting, sculpture and architecture as examples. Lecture 3 hours per week.

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 3 hours per week. Total 5 hours per week.

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.

Course Descriptions

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.

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.

ART 235 Functional Ceramics (3 Cr.)

Explores the design and production of functional ceramics, including hand building and use of the wheel. Prerequisite: ART 153 or instructor approval. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week.

ART 236 Sculptural Ceramics (3 Cr.)

Explores the design and production of sculptural ceramics, including hand building and use of the wheel. Prerequisite: ART 153 or instructor approval. Lecture 2 hours per week. Studio instruction 4 hours per week. Total 6 hours per week.

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 3 hours per week. Total 5 hours per week.

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 121 or instructor approval. Lecture 2 hours per week. Studio instruction 3 hours per week. Total 5 hours per week.

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.

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. Prerequisite: Reading requirement. Lecture 1 hour per week. Studio instruction 3 hours per week. Total 4 hours per week.

ART 287 Portfolio and Resume Preparation (1 Cr.)

Focuses on portfolio preparation, resume writing and job interviewing for students. Requires instructor's approval. Lecture 1 hour.

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.

American Sign Language

(Replaces Sign Communications)

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.

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.

Course Descriptions

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. Lecture 3 hours per week.

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.

INT 105-106 Interpreter Education (3Cr.) (3Cr.)

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.

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.

Biology

BIO 100 Basic Human Biology (3 Cr.)

Presents basic principles of human anatomy and physiology. Discusses cells, tissues, and selected human systems. Lecture 3 hours per week. Reading prerequisite required.

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.

BIO 106 Life Science (4 Cr.)

Provides a topical approach to basic biological principles. Includes the scientific process, characteristics of living organisms, molecular aspects of cells, bioenergetics, cellular and organismal reproduction genetics, evolution and ecology. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

BIO 107 Biology of the Environment (4 Cr.)

Presents the basic concepts of environmental science through a topical approach. Includes the scientific method, population growth and migration, use of natural resources and waste management, ecosystem simplification recovery, evolution, biogeochemical cycles, photosynthesis and global warming, geological formations, atmosphere and climate and ozone depletion and acid deposition. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

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.

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.

Course Descriptions

Building

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.

Business Management and Administration

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.

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.

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.

BUS 147 - Introduction to Business Information Systems (3 Cr.)

Provides an overview of business information systems. Introduces computer hardware, software, procedures, systems, and human resources, and explores their integration and application in business. Discusses fundamentals and applications of computer problem-solving and programming. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

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.

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.

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.

BUS 220 Introduction to Business Statistics (3 Cr.)

Introduces statistics as a tool in decision-making. Emphasizes ability to collect, present and analyze data. Employs measures of central tendency and dispersion, statistical inference, index numbers, probability theory and time series analysis. Lecture 3 hours per week.

BUS 226 - Computer Business Applications (3 Cr.)

Provides a practical application of software packages, including spreadsheets, word processing, database management, and presentation graphics. Includes the use of programs in accounting techniques, word processing, and management science application. Prerequisite: keyboarding competence. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Course Descriptions

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.

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.

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.

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.

Chemistry

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 MTH 03. CHM 101 prerequisite to CHM 102. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

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. Lecture 3 hours per week.

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 MTH 04. CHM 111 prerequisite to CHM 112. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

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 242 prerequisite to CHM 242. Recommended corequisite: CHM 243-244. Lecture 3 hours per week.

CHM 245-246 Organic Chemistry Laboratory 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.

Childhood Development

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.

CHD 119 - Introduction to Reading Methods (3 Cr.)

Introduces current practices of teaching reading in the elementary school. Familiarizes students with materials currently in use, emphasizes observation of various reading techniques and trends in the classroom. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Course Descriptions

CHD 120 Introduction 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.

CHD 121-122 Childhood Educational Development I-II (3 Cr.) (3 Cr.)

Focuses attention on the observable characteristics of children from birth through adolescence. Concentrates on cognitive, physical, social and emotional changes that occur. Emphasizes the relationship between development and a child's interactions with parents, siblings, peers and teachers. Lecture 3 hours per week.

CHD 125 Creative Activities for Children (3 Cr.)

Prepares individuals to work with young children in the arts and other creative age-appropriate activities. Investigates affective classroom experiences and open-ended activities. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

CHD 126 Science and Math Concepts for Children (3 Cr.)

Teaches selecting developmentally appropriate learning activities using materials to develop logical thinking skills in the child. Lecture 3 hours per week.

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.

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.

CHD 165 - Obser. and Parti. 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.

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.

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.

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.

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.

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.

Course Descriptions

CHD 220 Introduction to School-Age Child Care (3 Cr.)

Examines the purposes of school-age child care in today's society, the role of adults within school-age child care and the state of the profession of school-age child care. Lecture 3 hours per week.

CHD 230 Behavior Management for School-Age Child Care (3 Cr.)

Discusses the development of social skills that school-age children need for self-management, including self-discipline, self-esteem and coping with stress and anger. Explores way to effectively guide and discipline school-age children, focusing on how adults can facilitate positive pro-social and self-management skills. Lecture 3 hours per week.

CHD 235 Health and Recreation for School-Age Child Care (3 Cr.)

Examines the physical growth of school-age children and the role of health and recreation in school-age child development. Explores the use of medication, misuse of drugs, health issues of children and the availability of community resources. Lecture 3 hours per week.

CHD 265 - Adv. Obser. and Part, in Early Ch/Primary Settings (3Cr.)

Observes and participates in early childhood settings such as child care centers, pre-school, 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 60 clock hours in the field. May be taken again for credit. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week

CHD 270 - Administration 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.

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.

Civil Engineering Technology

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.

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.

CIV 225 Soil Mechanics (2 Cr.)

Focuses on soil and its relationship to engineering construction. Includes soil composition and structure, weight-volume relationships, sampling procedures, classification systems, water in soil, stresses, strains, bearing capacity, settlement and expansion, compaction, stabilization and introduction to foundations and retaining walls. Lecture 2 hours per week.

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.

Course Descriptions

Communication Studies and Theatre

(Replaces Speech and Drama)

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

CST 110 Introduction 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.

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.

CST 130 Introduction 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.

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.

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.

CST 141 Theatre Appreciation I

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.

Computer Aid Drafting and Design (CAD)

(Replaces Drafting)

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.

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.

CAD 225 Machine Drawing and Design (3 Cr.)

Teaches design of basic machine elements and the analysis of linear and geometric tolerancing including the preparation of complete design and production drawings. Prerequisite: EGR 110. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

CAD 238 - Computer Aided Modeling and Rendering I (3 Cr.)

Focuses on training students in the contemporary techniques of 3D modeling, rendering, and animation on the personal computer. Introduces the principles of visualization, sometimes known as photo-realism, which enables the student to create presentation drawings for both architectural and industrial product design. Uses computer animation to produce walk-throughs that will bring the third dimension to architectural designs. Part I of II. Lecture 1-2 hours. Laboratory 0-2 hours. Total 2-4 hours per week.

Course Descriptions

CAD 241 - Parametric Solid Modeling I (3Cr.)

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. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week.

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.

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.

Computer Science

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.

Dental Hygiene

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.

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.

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.

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.

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.

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.

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.

Course Descriptions

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.

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.

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.

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.

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.

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.

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.

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.

DHN 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.

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.

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.

Drafting

(See Computer Aid Drafting and Design (CAD) on page 140.)

Course Descriptions

Economics

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 Algebra 1 required. Lecture 3 hours per week.

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 Algebra 1 required. Lecture 3 hours per week.

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 Algebra 1 required. Lecture 3 hours per week.

Education

EDU 121 Childhood Educational Development I (3 Cr.)

Focuses attention on the observable characteristics of children from birth through adolescence. Concentrates on cognitive, physical, social and emotional changes that occur. Emphasizes the relationship between development and a child's interactions with parents, siblings, peers and teachers. Lecture 3 hours per week.

EDU 200 Introduction 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.

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. Variable lecture/laboratory hours per week.

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.

Electrical Technology

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.

Course Descriptions

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 105 or equivalent. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

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. Prerequisite: ELE 133 or instructor approval. Lecture 2-3 hours per week. Laboratory 2-4 hours per week. Total 4-5 hours per week.

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. Prerequisite: ELE 156 or instructor approval. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

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 or instructor approval. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

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.

ELE 239 Programmable Controllers (3 Cr.)

Deals with installation, programming, interfacing and concepts of trouble shooting programmable controllers. Prerequisite: ELE 156 plus demonstrated computer knowledge or instructor approval. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

Electronics Technology

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.

Emergency Medical Services (EMS)

EMS 120 Emergency Medical Technician-Basic Clinical (1 Cr.)

Observes in a program approved clinical/ field setting. Includes topics for both EMS 111 and EMS 113, dependent upon the program in which the student is participating and is a corequisite to both EMS 111 and EMS 113. Lecture 1 hour per week.

EMS 151 Introduction 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.

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

Course Descriptions

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.

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.

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.

EMS 161 Basic Trauma Life Support (BTLS) (1 Cr.)

Offers instruction for students in current topics of care for trauma patients and offers certification as a Basic Trauma Life Support Provider (BTLS) as defined by the American College of Emergency Physicians. Prerequisites: current certification/licensure as an EMS provider or other allied health care provider. Lecture 1 hour per week.

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.

EMS 172 ALS Clinical Internship II (1-2 Cr.)

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.

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.

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.

Engineering

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.

Course Descriptions

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.

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.

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.

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.

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.

English

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.

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.

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.

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.

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. Prerequisite: Students must successfully complete ENG 111 or its equivalent and must be able to use word processing software. Lecture 3 hours per week.

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 reading. Prerequisite: placement testing approval for ENG 111 or instructor approval. Lecture 3 hours per week.

Course Descriptions

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.

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.

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.

ENG 205 Technical Editing (3 Cr.)

Prepares business and technical communicators to edit self-generated writings as well as writings prepared by others, including individual or collaborative authors. Teaches students to make editorial content decisions, verify information and copyright compliance, adapt and design formats for audience and purpose and edit the work of several authors into a seamless final product. Covers basic proofreading and editing skills. Prerequisite: ENG 111 or equivalent. Lecture 3 hours per week.

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.

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.

ENG 215-216 Creative Writing – Fiction I-II (3 Cr.)

Introduces the fundamentals and techniques of writing short and long fiction. Prerequisite: ENG 112. Lecture 3 hours per week.

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.

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.

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.

ENG 245 Major English Writers (3 Cr.)

Examines major writers in English literary history. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Reading prerequisite required. Lecture 3 hours per week.

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.

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. 3 hours per week.

Course Descriptions

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.

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. Prerequisite: ENG 112 and ENG 211 or 212. Lecture 3 hours per week.

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.

ENG 278 Appalachian Literature (3 Cr.)

Examines selected works of outstanding authors of the Appalachian region. Involves critical reading and writing. Prerequisite ENG 112. Lecture 3 hours per week.

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 division approval. Lecture 3 hours per week.

ENG 295 Special Studies in Technical Writing (3 Cr.)

Teaches students about three specialized technical writing areas: grant proposals, standard operating procedures and government documents. Grant writing – focuses on grant proposals to develop new programs, support existing programs, and strengthen operating budget; provides hands-on practice producing a grant proposal for a hypothetical or actual grant. Standard operating procedures – covers the procedure-writing process and helps ensure that procedures meet primary audience needs; focuses on design procedures, regulatory requirements, quality standards and common industry practices; includes practice in gathering information and developing an effective procedure format. Government documents – exposes students to a wide range of documents and forms created for county, state and federal agencies and gives them practice in writing and rewriting a wide sampling of government documents with a special emphasis on plain language. Lecture 3 hours per week.

English as a Second Language

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.

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.

Financial Services

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.

Course Descriptions

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.

French

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.

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.

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 French 201-202 or equivalent.

Geography

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.

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.

Geology

GOL 105 Physical Geology (4 Cr.)

Introduces the composition and structure of the earth and modifying agency and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes and crustal deformation. Reading prerequisite required. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

GOL 106 Historical Geology (4 Cr.)

Traces the evolution of the earth and life through time. Presents scientific theories of the origin of the earth and life and interprets rock and fossil records. Reading prerequisite required. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

German

GER 101 - Beginning German I (4-5 Cr.)

Introduces understanding, speaking, reading, and writing skills and emphasizes basic German sentence structures. Lecture 4-5 hours per week. May include one additional hour oral practice per week.

Health

HLT 106 First Aid Safety (2 Cr.)

Focuses on the principles and techniques of safety and first aid. Lecture 2 hours per week.

Course Descriptions

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.

HLT 130 Nutrition and Diet Therapy (2 Cr.)

Studies nutrients, sources, functions and requirements with an introduction to diet therapy. Lecture 1 hour per week. Laboratory 2 hours per week. Total 3 hours per week.

HLT 135 Child Health and Nutrition (3 Cr.)

Focuses on the physical needs of the preschool child and the methods by which these are met. Emphasizes health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety as related to health growth and development. Lecture 3 hours per week.

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 3 hours per week.

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 2-3 hours per week.

Health Information Management

HIM 110 - Introduction to Human Pathology (3 Cr.)

Introduces the basic concepts, terminology, etiology, and characteristics of pathological processes. Reading prerequisite required. Lecture 3 hours per week.

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. Lecture 3 hours per week.

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. Lecture 3 hours per week. Reading prerequisite required.

HIM 130 Healthcare Information Systems (3 Cr.)

Focuses on microcomputer applications, information systems and applications in the health care environment. Lecture 3 hours per week.

HIM 141-142 Fundamentals of Health Information Systems I-II (3 Cr.) (3 Cr.)

Focuses on health data collection, storage, retrieval and reporting systems, with emphasis on the role of the computer in accomplishing these functions. Lecture 3 hours per week.

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. Lecture 2-3 hours per week.

HIM 226 Legal Aspects of Health Record Documentation (2 Cr.)

Presents the legal requirements associated with health record documentation. Emphasizes the policies and procedures concerning the protection of the confidentiality of patient's health records. Lecture 2 hours per week.

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. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

Course Descriptions

HIM 231 Health Record Applications I (3 Cr.) Uses an integrated approach to practicing health record skills in a simulated clinical environment. Emphasizes the use of the microcomputer in accomplishing problem-solving tasks. Prerequisites: ENG 3 and ENG 4 and AST 102. Laboratory 6 hours per week.

HIM 232 Health Record Applications II (3 Cr.) Uses an integrated approach to practicing health record skills in a simulated clinical environment. Emphasizes the use of the microcomputer in accomplishing problem-solving tasks. Prerequisites: ENG 3 and ENG 4 and AST 102. Laboratory 6 hours per week.

HIM 250 Health Data Classification Systems I: ICD-9-CM (4 Cr.)
Focuses on diagnosis and procedure classification using ICD-9-CM. This system is currently utilized for collecting health data for the purposes of statistical research and financial reporting. Prerequisite(s): HIM 110 and HIM 111 plus either BIO 141/142 or NAS150 or PNE 155 or BIO 100. Lecture 4 hours per week.

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. Corequisite: HIM 112. Lecture 4 hours per week.

HIM 254 Advanced Coding and Reimbursement (4 Cr.)
Stresses advanced coding skills through practical exercises using actual medical records. Introduces CPT-4 coding system and guidelines for out-patient/ambulatory surgery coding. Introduces prospective payment system and its integration with ICD-9-CM coding. Lecture 4 hours per week.

HIM 255 Health Data Classification Systems II: CPT (2 Cr.)
Focuses on procedure classification using CPT. This system is currently utilized for collecting health data for the purposes of statistical research and financial reporting. Prerequisite(s): HIM 110 and HIM 111 plus either BIO 141/142 or NAS 150 or PNE 155 or BIO 100. Lecture 2 hours per week.

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. Prerequisite ENG 3 and ENG 4. Lecture 2 hours per week.

History

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.

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

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.

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.

HIS 251-252 History of Middle East Civilization I-II (3 Cr.) (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.

HIS 253 - History of Asian Civilizations I (3 Cr.)
Surveys the civilizations of Asia from their origins to the present. Reading prerequisite required. Lecture 3 hours per week.

Course Descriptions

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.

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. Lecture 3 hours per week.

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.

Humanities

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.

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.

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.

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.

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.

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.

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.

HUM 295 Asian Cultures (3 Cr.)

Studies religions, values, and arts of major Asian civilizations, integrating major developments in art, architecture, literature, music, and philosophy. Areas will include, but are not limited to, China, India, Japan, and Vietnam. Reading prerequisite required. Lecture 3 hours per week.

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.

Course Descriptions

Interior Design

IDS 100 Theory and Techniques of Interior Design (3 Cr.)

Introduces drafting and presentation, color theory and coordination, space planning and arrangement of furnishings.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Course Descriptions

Information Technology Design and Database

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.

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.

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.

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.

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.

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 110.

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.

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.

ITD 252 Database Backup and Recovery (3 Cr.)

Concentrates instruction in the key tasks required to plan and implement a database backup and recovery strategy. Includes instruction in multiple strategies to recover from multiple types of failure. Prerequisite: ITD 250.

ITD 254 Database Network Administration (3 Cr.)

Includes detailed information about how to administer databases over networks. Includes introduction to concepts and maintenance of distributed databases. Prerequisite: ITD 250.

Information Technology Essentials

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.

Course Descriptions

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: ITE 115 recommended.

ITE 140 Spreadsheet Software (3 Cr.)

Covers the use spreadsheet software to create spreadsheets with formatted cells and cell ranges, control pages, multiple sheets, charts and macros. Topics will include type and edit text in a cell, enter data on multiple worksheets, work with formulas and functions, create charts, pivot tables and styles, insert headers and footers and filter data. This course covers MOS Excel objectives. Reading prerequisite required. Prerequisite: ITE 115 or equivalent.

ITE 150 Desktop Database Software (3 Cr.)

Incorporates instruction in planning, defining and using a database; performing queries; producing reports; working with multiple files; and concepts of database programming. Course topics include database concepts, principles of table design and table relationships, entering data, creating and using forms, using data from different sources, filtering, creating mailing labels. This course covers MOS Access certification objectives. Reading prerequisite required. Prerequisite: ITE 115 or equivalent.

ITE 215 Advanced Computer Literacy (4 Cr.)

Incorporates advanced computer concepts including the integration of a software suite. Reading prerequisite required. Prerequisite: ITE 115 or equivalent.

Information Technology Networking

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.

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.

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.

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.

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.

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.

Course Descriptions

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.

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.

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.

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.

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.

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.

Information Technology Programming

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.

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.

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.

ITP 132 C++ Programming I (4 Cr.)

Centers instruction in fundamentals of object-oriented programming and design using C++. Course content emphasizes program construction, algorithm development, coding, debugging and documentation of C++ applications. Reading prerequisite required. Prerequisite: ITP 100.

Course Descriptions

ITP 136 C+ Programming I (4 Cr.)

Presents instruction in fundamentals of object-oriented programming and design using C+. Emphasizes program construction, algorithm development, coding, debugging, and documentation of applications within the .NET framework. Reading prerequisite required. Prerequisite: ITP 100

ITP 160 Introduction 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 context, 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.

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.

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.

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.

Legal Administration

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 required. Lecture 3 hours per week.

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. Prerequisites ENG 3 and ENG 4 required. Lecture 3 hours per week.

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 required. Lecture 3 hours per week.

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. Corequisites: ENG 3 and ENG 4. Lecture 3 hours per week.

Course Descriptions

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. Prerequisites: ENG 3 and ENG 4. Lecture 3 hours per week.

LGL 130 Law Office Administration and 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 required. Lecture 3 hours per week.

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. Corequisites: ENG 3 and ENG 4. Lecture 1 hour per week.

LGL 215 Torts (3 Cr.)

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. Prerequisites: ENG 1 and ENG 4. Lecture 3 hours per week.

LGL 217 Trial Practice and the Law of Evidence (3 Cr.)

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 required. Lecture 3 hours per week.

LGL 218 Criminal Law (3 Cr.)

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 required. Lecture 3 hours per week.

LGL 225 Estate Planning and Probate (3 Cr.)

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. Prerequisites: ENG 3 and ENG 4. Lecture 3 hours per week.

LGL 230 Legal Transactions (3 Cr.)

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 required. Lecture 3 hours per week.

LGL 234 Intellectual Property Law (3 Cr.)

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. Prerequisites: ENG 03 and ENG 04. Lecture 3 hours per week.

LGL 235 Legal Aspects of Business Organizations (3 Cr.)

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 required. Lecture 3 hours per week.

LGL 238 Bankruptcy (3 Cr.)

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. Lecture 3 hours per week.

Course Descriptions

Marketing

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.

MKT 210 Sales Management (3 Cr.)

Presents an in-depth examination of managing a sales force. Introduces methods of training, compensating, motivation, and evaluation the workforce. Explores forecasting techniques and quotas. Lecture 3 hours per week.

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.

MKT 229 Marketing Research (3 Cr.)

Introduces the marketing research process to include methodology, data collection, sampling and analysis. Focuses on planning basic research studies and applying the findings to marketing decisions. Lecture 3 hours per week.

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.

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.

Mathematics

MTH 01 Developmental Mathematics (4 Cr.)

Designed to bridge the gap between a weak mathematical foundation and the knowledge necessary for the study of mathematics courses in technical, professional and transfer programs. Topics may include arithmetic, algebra, geometry and trigonometry. Credits not applicable toward graduation. Lecture 4 hours per week.

MTH 02 Arithmetic (4 Cr.)

Covers arithmetic principles and computations including whole numbers, fractions, decimals, percents, measurement, graph interpretation, geometric forms and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits not applicable toward graduation. Lecture 4 hours per week.

MTH 03 Algebra I (4 Cr.)

Covers the topics of Algebra I including real numbers, equations and inequalities, exponents, polynomials, Cartesian coordinate system, rational expressions and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits not applicable toward graduation. Prerequisites: a placement approval for MTH 03 and Arithmetic or equivalent. Lecture 4 hours per week.

MTH 04 Algebra II (4 Cr.)

Expands upon the topics of Algebra I including rational expressions, radicals and exponents, quadratic equations, systems of equations and applications. Develops the mathematical proficiency in intermediate algebra necessary for selected curriculum entrance. Credits not applicable toward graduation. Prerequisites: a placement approval for MTH 04 and Algebra I or equivalent. Lecture 4 hours per week.

Course Descriptions

MTH 06 Developmental Geometry (4 Cr.)

Covers topics in Euclidean geometry including similarity and congruency, plane and solid figures, right triangles, parallel and perpendicular lines, constructions and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. Credits not applicable toward graduation. Prerequisites: a placement approval for MTH 06 and Algebra I or equivalent. Lecture 4 hours per week.

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: a placement recommendation for MTH 103 and one unit of high school mathematics or equivalent. Lecture 3 hours per week.

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: a placement approval for MTH 115 and Algebra I and Geometry, or Algebra I and Algebra II, or equivalent. Lecture 3 hours per week.

MTH 120 Introduction to Mathematics (3 Cr.)

Introduces number systems, logic, basic algebra, systems of equations and descriptive statistics. Prerequisites: a placement approval for MTH 120 and one unit of high school mathematics or equivalent. (Intended for occupational/technical programs.) Lecture 3 hours per week.

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: a placement approval for MTH 126 and one unit of high school mathematics or equivalent. Lecture 3 hours per week.

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.

MTH 150 Topics in Geometry (3 Cr.)

Presents the fundamentals of plane and solid geometry and introduces non-Euclidean geometries and current topics. Prerequisites: a placement approval for MTH 150 and Algebra I. Lecture 3 hours per week.

MTH 151 Mathematics for the Liberal Arts I (3 Cr.)

Presents topics in sets, logic, numeration systems, geometric systems and elementary computer concepts. Prerequisites: a placement approval for MTH 151 and Algebra I, Algebra II and Geometry or equivalent. Lecture 3 hours per week.

MTH 152 Mathematics for the Liberal Arts II (3 Cr.)

Presents topics in functions, combinations, probability, statistics and algebraic systems. Prerequisites: a placement approval for MTH 152 and Algebra I, Algebra II and Geometry or equivalent. Lecture 3 hours per week.

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.

MTH 163 Precalculus I (3 Cr.)

Presents college algebra, matrices and algebraic, exponential and logarithmic functions. Prerequisites: a placement approval for MTH 163 and Algebra I, Algebra II and Geometry or equivalent. Lecture 3 hours per week.

MTH 164 Precalculus II (3 Cr.)

Presents trigonometry, analytic geometry and sequences and series. Prerequisite: MTH 163 or equivalent. Lecture 3 hours per week.

Course Descriptions

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.

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.

MTH 213-214 Advanced Engineering Technical Mathematics I-II (3 Cr.) (3 Cr.)

Presents limits and differential and integral calculus with applications directed toward the appropriate technical field. Prerequisite: MTH 114 or MTH 116 or equivalent. Lecture 3 hours per week.

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. (Credit will not be awarded for both MTH 240 and MTH 241.) Lecture 3 hours per week.

MTH 241 Statistics I (3 Cr.)

Covers descriptive statistics, elementary probability, probability distributions, estimation and hypothesis testing. Prerequisites: a placement recommendation for MTH 241 and MTH 163 or MTH 166 or equivalent. Lecture 3 hours per week.

MTH 242 Statistics II (3 Cr.)

Continues the study of estimation and hypothesis testing with emphasis on correlation and regression, analysis of variance, chi-square tests and non-parametric methods. Prerequisite: MTH 241 or equivalent. Lecture 3 hours per week.

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.

MTH 272 Applied Calculus II (3 Cr.)

Covers techniques of integration; multivariable calculus and an introduction to differential equations. Prerequisite: MTH 271 or equivalent. Lecture 3 hours per week.

MTH 275 Multivariable Calculus and Linear Algebra (4 Cr.)

Presents vector valued functions, partial derivatives, multiple integrals, matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension eigenvalues and eigenvectors. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 277 Vector Calculus (4 Cr.)

Presents vector valued functions, partial derivatives, multiple integrals and topics from the calculus of vectors. Designed for mathematical, physical and engineering science programs. Prerequisite MTH 174 or equivalent. Lecture 4 hours per week.

MTH 285 Linear Algebra (3 Cr.)

Covers matrices, vector spaces, determinants, solutions of systems of linear equations, eigenvalues and eigenvectors. Prerequisite: MTH 174 or equivalent. Lecture 3 hours per week.

Course Descriptions

Mechanical Engineering Technology

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.

MEC 116 Jig and Fixture Design (3 Cr.)

Focuses on fundamentals of the construction and design of various types of jigs and fixtures, including milling, reaming, tapping and drilling fixtures. Studies preparation of complete working drawings from layouts, for interchangeable manufacture, computation of fits, limit dimensions, tolerances, tool drawing principles and methods and fundamentals of cutting tools and gauges. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

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.

Medical Assisting

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. Prerequisites: ENG 3 and ENG 4. Lecture 3 hours per week.

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. Prerequisites: ENG 3 and ENG 4. Lecture 2 hours per week.

Medical Laboratory

MDL 105 (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. Lecture 3 hours.

MDL 106 (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.

Mental Health

MEN 110 Introduction to Abnormal Psychology (3 Cr.)

Studies symptoms, causes and treatment of mental deficiency, menrosis, psychosis and character disorders, with specific relationship to work of the mental health technologist. Lecture 3 hours per week.

Course Descriptions

Music

MUS 121 Music Appreciation I (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. Part I of II. Lecture 3 hours per week.

Natural Science

NAS 120 Introductory Meteorology (3 Cr.)

Studies cloud formation, weather maps, forecasting and wind systems with emphasis on local weather patterns. Lecture 3 hours per week.

NAS 125 Meteorology (4 Cr.)

Presents a non-technical survey of fundamental meteorology. Focuses on the effects of weather and climate on humans and their activities. Serves for endorsement or recertification of earth science teachers. Lecture 3 hours per week. Recitation and laboratory 2 hours per week. Total 5 hours per week.

NAS 130 Elements of Astronomy (4 Cr.)

Covers history of astronomy and its recent developments. Stresses the use of astronomical instruments and measuring techniques and includes the study and observation of the solar system, stars and galaxies. Lecture 3 hours per week. Recitation and laboratory 3 hours per week. Total 6 hours per week.

Nursing

NUR 27 Nurse Aide I (4 Cr.)

Teaches care of older patients with emphasis on the social, emotional and spiritual needs. Covers procedures; communication and interpersonal relations; observations, charting and reporting; safety and infection control; anatomy and physiology; personal care, nutrition and patient feeding; and death and dying. May include laboratory or clinical hours per week. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

NUR 105 Nursing Skills (3 Cr.)

Develops nursing skills for the basic needs of individuals and introduces related theory. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 1 hour. Laboratory 6 hours per week. Total 7 hours per week.

NUR 108 Nursing Principles and Concepts I (5 Cr.)

Teaches principles of nursing, health and wellness concepts and the nursing process. Develops nursing needs to meet the multidimensional needs of individuals. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experience in college nursing laboratories and/or cooperating agencies. Lecture 3 hours per week. Laboratory 6 hours per week. Total 9 hours per week.

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.

NUR 136 Principles of Pharmacology I (2Cr.)

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.

Course Descriptions

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.

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. Prerequisites (1st year nursing course work). Lecture 1 hour. Laboratory 3 hours per week. Total 4 hours per week.

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. Prerequisite: 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 226 Health Assessment (3 Cr.)

Teaches the systematic approach to obtaining a health history and performing a physical assessment. Lecture 2 hours. Laboratory 6 hours per week. Total 7 hours per week.

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.

Philosophy

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.

PHI 220 Ethics (3 Cr.)

Provides a systematic study of representative ethical systems. Reading prerequisite required. Lecture 3 hours per week.

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.

Photography

PHT 101-102 Photography I-II (3 Cr.) (3 Cr.)

Teaches basic principles of black and white photography and fundamental camera techniques. Students will take their own photographs, develop the film and print the negatives. Requires outside shooting and lab work. Lecture 1 hour per week. Laboratory 4 hours per week. Total 5 hours per week.

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.

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.

Course Descriptions

PHT 201-202 Advanced Photography I-II (3 Cr.) (3 Cr.)

Provides weekly critique of students' work. Centers on specific problems found in critiques. Includes working procedures and critical skills in looking at photographs. Advanced black and white photography techniques. Prerequisite: PHT 102 or equivalent. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

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. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

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.

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.

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.

Physical Education and Recreation

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.

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.

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.

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.

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.

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.

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.

Course Descriptions

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.

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.

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.

Physics

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.

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. Prerequisite: MTH 163 or equivalent. PHY 201 prerequisite to PHY 202. Reading prerequisite required. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

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. Prerequisite for PHY 241 is MTH 173 or divisional approval. Prerequisite for PHY 242 is MTH 174 or divisional approval. Reading prerequisite required. PHY 241 prerequisite to PHY 242. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

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. Prerequisites: PHY 241-242 or equivalent. Lecture 3 hours per week. Laboratory 2-3 hours per week. Total 5-6 hours per week.

Political Science

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.

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.

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.

Course Descriptions

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.

Practical Nursing

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.

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.

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.

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. Lecture 3 hours per week. Laboratory 9 hours per week. Total 12 hours per week. Prerequisite: Admission to Practical Nursing Program

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 6 hours per week. Total 21 hours per week.

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. Lecture 6 hours per week. Prerequisite: PNE 162. Laboratory 12 hours per week. Total 18 hours per week.

PNE 174 Applied Pharmacology for Practical Nurses (2 Cr.)

Applies problem-solving skills in preparing and administering medications. Lecture 1 hour per week. Laboratory 3 hours per week. Total 4 hours per week. Prerequisite: Admission to Practical Nursing Program

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.

PNE 195 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.

Psychology

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.

Course Descriptions

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.

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.

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.

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.

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.

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.

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. Prerequisites: PSY 125, 200, 201, or divisional approval. Lecture 3 hours per week.

Real Estate

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.

Religion

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.

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.

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.

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.

Course Descriptions

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.

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.

Sociology

SOC 200 Principles of Sociology (3 Cr.)

Introduces fundamentals of social life. Presents significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification and social institutions. Reading prerequisite required. Lecture 3 hours per week.

SOC 207 Medical Sociology (3 Cr.)

Surveys the social, economic, cultural and individual factors in health and illness. Examines issues of wellness, health-care systems, physician-nurse-patient relationships, medical costs, ethics and policy. Reading prerequisite required. Lecture 3 hours per week.

SOC 211 - Principles of Anthropology I (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.

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.

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.

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.

Spanish

SPA 16 Spanish for Business (2 Cr.)

Introduces the student to Spanish used in business transactions. Lecture 2 hours per week.

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.

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.

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. Prerequisite SPA 202 or equivalent. Reading prerequisite required. Lecture 3 hours per week.

Speech and Drama

(See Communication Studies and Theatre on page 140.)

Course Descriptions

Student Development

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.

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.

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.

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.

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.

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.

Surgical Tech

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.

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. (Note: Previously listed as NUR 141-142.) Prerequisite: SUR 140. Corequisite: BIO 141. Lecture 2 hours per week. Laboratory 3-6 hours per week. Total 5-8 hours per week.

Course Descriptions

SUR 210 Surgical Procedures (8 Cr.)

Introduces the surgical specialties of general; gastroenterology, gynecology; ophthalmology; otorhinolaryngology; dental; oral and maxillofacial; plastic and reconstructive; pediatrics; oncology; neurosurgery; orthopedics; cardiac; thoracic; vascular; transplant; and trauma in a laboratory and clinical experience. (Note: Previously listed as NUR 209 and NUR 210). Prerequisite: SUR 145. Corequisites: BIO 142, SUR 250. Lecture 4 hours per week. Laboratory 12-15 hours per week. Total 16-19 hours per week.

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.

SUR 254 Professional Issues in Surgical Technology (1 Cr.)

Provides job seeking skills and an overview of theoretical knowledge in preparation for national certification. Includes test taking strategies, career options, resume preparation, interviewing techniques, professional credentialing and organizations and professionalism as it relates to surgical technology. Prerequisite: SUR 210. Corequisite: SUR 299. Lecture 1-2 hours per week.

SUR 260 Surgical Technology Clinical Practicum (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 210. Corequisite: SUR 254. Laboratory 15-18 hours per week.

Veterinary Assisting

VET 100 Introduction to Animal Science (3-4 Cr.)

Surveys the common breeds of small and large domestic animals, including identification, management and restraint. Lecture 2-3 hours per week. Laboratory 3 hours per week. Total 5-6 hours per week.

VET 101 Introduction to Veterinary Assisting (3 Cr.)

Presents basic information about assisting the veterinarian. Includes information about companion animals, primarily dogs and cats. Lecture 3 hours per week.

VET 103 - Veterinary Office Assisting (3 Cr.)

Presents basic information about common business procedures used in veterinary practice. Includes client and staff relationships and veterinary regulations. Lecture 3 hours per week.

VET 105 Introduction to Veterinary Technology (3 Cr.)

Introduces the role of veterinary technicians in veterinary practice. Includes medical terminology, ethics, professionalism and basic concepts of patient care. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

VET 236 Companion Animal Behavior (2-3 Cr.)

Teaches basic behavior concepts as they apply to dogs, cats and horses. Stresses prevention and treatment of behavior problems. Lecture 2-3 hours per week.

Welding

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.

Course Descriptions

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.