

SECTION 3



Course Descriptions

SECTION 3 / COURSE DESCRIPTIONS

Accounting

ACCT 101 - Principles of Financial Accounting 3

Prerequisites: ENGL 070 and MATH 061 with grades of C or higher or equivalent placement scores. Introductory course covering fundamental accounting principles and financial statement preparation. Emphasis on analysis of effects of business transactions on the earnings, financial position and cash flows of business entities.

ACCT 102 - Managerial Accounting 3

Prerequisite: ACCT 101 with a grade of C or higher. Introduction to accounting methods and processes of managerial and cost accounting. Emphasis on developing and using accounting information related to a manufacturing environment, including management control and decision making.

ACCT 109 - Applied Accounting Procedures 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Provides a basic understanding of accounting terminology and procedures used to record, classify and summarize financial data for a sole proprietorship. Designed for those with no previous knowledge of accounting.

ACCT 125 - Computerized Accounting Applications 3

Prerequisites: ACCT 109 and CAPP 125 with grades of C or higher. Project-intensive approach to accounting and reporting utilizing accounting software currently used in industry. Emphasis on using a microcomputer to process financial accounting data and prepare financial statements and related reports.

ACCT 126 - Introduction to QuickBooks 1

Introduction to the basic concepts and skills necessary for using QuickBooks. Emphasis on entering accounts payable/receivable and payroll transactions, completing end-of-year processes and generating reports to make business decisions.

ACCT 132 - Business Taxation 3

Prerequisite: ACCT 101 with a grade of C or higher. Introduction to the federal and state laws that affect employment practices, payment of wages, benefit plans, worker's compensation, garnishments, and sales tax. Emphasis on compliance with federal and state reporting requirements.

ACCT 137 - Introduction to Federal Taxation 3

Prerequisite: ACCT 101 with a grade of C or higher. Introduction to federal income tax principles and procedures. Emphasis on application of tax laws to solve tax problems, develop tax plans, perform tax research, and prepare required returns.

ACCT 175 - Accounting Internship 4

Prerequisite: Consent of program coordinator. Supervised on-the-job training plan, tailored to meet student and employer needs.

ACCT 203 - Intermediate Financial Accounting I 3

Prerequisite: ACCT 101 with a grade of C or higher. Financial accounting theory and practice are applied in accordance with generally accepted accounting principles for financial reporting of corporate entities. Emphasis on corporate financial statement preparation and analysis.

ACCT 220 - Current Topics in Accounting 3

Prerequisites: ACCT 102 and ACCT 203 with grades of C or higher. Accounting theory and practice are applied to selected topics related to financial reporting and management decision making. Course will utilize case studies and current events involving the accounting profession.

Agriculture

AGRI 101 - Ag Leadership and Issues I 2

Course is designed to help students begin planning a career in the agriculture industry by creating and setting goals and developing means of attaining those goals. The course focuses on leadership development, team building, problem solving, and current issues in agriculture.

AGRI 102 - Ag Leadership and Issues II 1

Prerequisite: AGRI 101. Continuation of AGRI 101 promoting further development of the student's career plan. Course will help students identify what attributes are sought by the agriculture industry and how to prepare for the workforce. Course focuses on resume building, creating cover letters, filling out employment applications, and job interview skills.

AGRI 103 - Ag Leadership and Issues III 2

Prerequisite: AGRI 102. Course allows students to review the progress made in the previous year in AGRI 101 and AGRI 102 and continue toward the goal of employment in the agriculture industry. Course focuses on the continuing development and implementation of a career plan for entry into an agriculture-related career.

AGRI 104 - Ag Leadership and Issues IV 1

Prerequisite: AGRI 103. Continuation of AGRI 103 completing the progress of the student's plan for employment. Course focuses extensively on the process of employment ranging from job identification, the application process and interviewing for the position.

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Activities include job searching, contacting employers, filling out applications, and experiencing a job interview.

AGRI 106 - Global Agriculture 3

Course introduces the student to economic, political, cultural, and environmental issues that affect food production and distribution in the advancement of societies in developed and developing countries.

AGRI 108 - Animal Science 3

Presents principles of animal agriculture essential for a basic understanding of the animals that are chief producers of food and fiber for human consumption. Specific breeds, animal behavior, anatomy, physiology, reproduction, and nutrition will be included.

AGRI 110 - Contemporary Issues in Animal Agriculture 3

Introduction to contemporary issues in animal agriculture, including perspectives on animal rights and welfare, effects of agriculture on the environment, and controversial production techniques.

AGRI 112 - Livestock and Meat Evaluation 3

Course is a study of livestock selection and meat evaluation used in marketing in the beef, swine and sheep industries.

AGRI 114 - Livestock Management 3

Course is a study of the segments of livestock production that identifies the essential ingredients needed by producers to raise productive and profitable livestock.

AGRI 116 - Animal Nutrition 3

Prerequisite: MATH 061 or equivalent placement scores. Study includes the nutritional needs of livestock and the formulation of feeds, including hormones, antibiotics, minerals, vitamins, and other feed additives.

AGRI 118 - Plant Science 3

Study includes plant and seed development and selection, the cultural practices in the production of common farm crops, and seed and weed identification.

AGRI 119 - Soils I with Lab 4

Prerequisite: MATH 061 or equivalent placement scores or consent of instructor. Course is designed to give students an understanding of key concepts in soil formation, composition, uses, soil conservation, cropping systems, and soil improvements. The lab provides students with real world application of soils theories and concepts taught in the classroom. Both AGRI 119 and AGRI 120 cannot be applied to meet any certificate/degree requirements. (3 lecture, 1 lab)

AGRI 121 - Soils II 3

Prerequisite: AGRI 119. Study includes soil composition and fertilization practices needed for proper nutrition of plants.

AGRI 123 - Soil Erosion and Management 3

Prerequisite: AGRI 119 or consent of instructor. Course includes training in surveying soil erosion control through construction of structures and management practices.

AGRI 125 - Natural Resources 3

Course includes the study of natural resources as they relate to our existence and their mutual relationship to each other.

AGRI 127 - Farm Chemicals 3

Course includes the study of the production, distribution, handling, and application of farm chemicals, including insecticides, rodenticides, fungicides, herbicides, and brush killers.

AGRI 129 - General Horticulture 3

Course includes study of horticultural crops and the horticultural industry. Study includes plant propagation and vegetable/fruit production.

AGRI 131 - Introduction to Agribusiness Systems 3

Introduction to the agribusiness system career pathway. Topics include an overview of the agribusiness industry, economic principles in agribusiness and retail agribusiness sales.

AGRI 132 - Agriculture Economics 3

Study focuses on the factors affecting the income and expenditures of agricultural business, and the methods and systems of buying and selling products.

AGRI 133 - Agricultural and Food Policy 3

Course presents theory and practice in agricultural and food policy creation and implementation. Study includes farm, food, environmental, and economic policies that impact agricultural business.

AGRI 134 - Marketing Farm Commodities 3

Course presents theory and practice in marketing livestock and livestock products, analysis of costs and efficiency in grain marketing and processing organizations, and the price-making process.

AGRI 136 - Ag Credit and Finance 3

Course emphasizes general principles associated with evaluation of management and use of capital. Students will develop an understanding of agricultural finance to help financiers satisfy credit needs of modern agriculture.

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AGRI 137 - Farm Management, Recordkeeping 1	knowledge of crop production appropriate for the spring and fall seasons.
Course covers computer use in the workplace with emphasis on agribusiness situations. Computer applications including spreadsheet management will be covered.	
AGRI 138 - Ag Business Management 3	AGRI 149 - Chemistry of Soil Additives 3
Study includes management functions and economics of agriculture organizations and operations including input-output analysis, efficient allocations of resources, enterprise combinations, and budget	Course covers the basic principles of soil fertilization and includes lime application, plant nutrients, fertilizing, and management. Upon completion, students should be able to give nutrient and liming recommendations for soils.
AGRI 140 - Vegetable Production 3	AGRI 151 - Landscape Design and Maintenance 3
Includes a study of crop production practices, including vegetables, cut flowers, and culinary and medicinal herbs. Topics include variety selection, production methods and record-keeping procedures for certification. Upon completion, students should be able to demonstrate knowledge of crop production appropriate for the spring and fall seasons.	A comprehensive study of landscaping including functional and aesthetical aspects of landscaping, maintenance and implementation and Computer Aided Drafting (CAD).
AGRI 141 - Livestock Breeding 3	AGRI 152 - Turf Management 4
Course includes study of genetic factors contributing to animal value, selection criteria for a production operation and mating systems.	Course focuses on identifying, establishing and maintaining a turf grass environment including cultural practices of different environments.
AGRI 143 - Livestock Reproduction 3	AGRI 154 - Greenhouse Management with Lab 4
Course covers basic reproductive anatomy and physiology of farm animal species followed by reproduction management options and contemporary reproductive technologies.	Course presents design, environmental control and equipment found in the greenhouse. Instruction includes principles and practices relative to plant nutrition, pest control, production, handling, and marketing greenhouse production. (3 lecture, 1 lab)
AGRI 144 - Introduction to Beekeeping 1	AGRI 167 - CDL Licensing 2
Introduction to the basic principles of beekeeping and the importance of its role in agriculture production and maintenance of the food supply. Information provided should provide the student with the appropriate skills to become established as a hobbyist beekeeper.	Course is designed to enable students to pass the state Commercial Driver's License (CDL) exam. Students must qualify for the Class A CDL with all appropriate endorsements.
AGRI 145 - Advanced Beekeeping 1	AGRI 168 - Commercial Applicator Licensing 2
Advanced beekeeping course to helps participants become established as a hobbyist beekeeper including obtaining bees, and setting up and managing several beehives.	Prerequisite: MATH 061 or equivalent placement scores. Course is designed to complement other courses offered in weed, insect, disease control, and pesticide application to give students the skills necessary to pass the state and federal examination for commercial applicator licensing.
AGRI 147 - Plant Identification 4	AGRI 174 - Crop and Insect Scouting 2
Course includes the study and identification of various landscaping and greenhouse plants. (3 lecture, 1 lab)	Utilizing real-life crop growing environments, students will learn to identify weeds, insect and disease infestations, determine life cycles, damage symptoms, economic thresholds, and recommended control alternatives.
AGRI 148 - Fruit Production 3	AGRI 175 - Occupational Internship 2 to 8
Course includes a study of fruit crop production practices. Topics include variety selection, production methods and record-keeping procedures. Upon completion, students should be able to demonstrate	Prerequisite: Consent of program coordinator. Supervised by agricultural staff and designed to assist the student in developing good work habits. Includes training in specific areas unique to the employer and provides basis for career decision for the student.

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AGRI 179 - Innovative Horticulture 1	
Prerequisite: Consent of instructor. Designed to provide the student an opportunity to apply horticultural knowledge, problem-solving skills, and creativity to develop and/or construct a capstone project. Student must have completed 55 credit hours in the AAS in Agriculture with emphasis in Horticulture program.	
AGRI 180 - Problems in Agriculture 1 to 3	
Prerequisite: Consent of program coordinator. Independent study of a special problem in agriculture under the supervision of an agriculture instructor.	
AGRI 190 - AGRI Capstone 1	
Prerequisite: Consent of program coordinator. An end-of-program course for sustainable agriculture majors. Students will utilize information from courses in the program to solve sustainable agriculture problems. Course provides an understanding of a sustainable agriculture problem or project that will incorporate prior knowledge.	
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Art	
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ART 101 - Art Appreciation 3	
Study of art history from the last of the 19th century through the present. Consists of formal lectures, films, slides, gallery and studio visits, assigned readings, as well as hands-on experiences with art materials. Includes the evolution of art by focusing on the major art movements of the past 100 years. Encourages appreciation of visual art through the study of content, design, technique, and criticism of art. Students learn how art changed during this period and how it reflects the dynamics of 20th century civilization.	
ART 103 - Design I 3	
Entry-level art course required of all art majors. Foundation course introducing the study of the visual elements and principles of design. Emphasis is placed on the student's ability to recognize and manipulate these elements and principles.	
ART 104 - Design II 3	
Prerequisite: ART 103. The second of a two-course sequence required for all art majors. Compositional principles of art are explored through a variety of two- and three-dimensional materials. Emphasis is placed on the student solving specific problems creatively with color.	
ART 106 - Watercolor I 3	
Course introduces the materials and techniques of aqua media painting, various preparations of paper and the use of brushes and other tools. Control of transparent color will be learned through experimentation.	
ART 107 - Watercolor II 3	
Prerequisite: ART 106. Continuation of ART 106 with advanced studio experience centered on a series of related paintings.	
ART 108 - Watercolor III 3	
Prerequisite: ART 107. Includes advanced problems and techniques of aqua media painting.	
ART 110 - Printmaking 3	
Course includes exploring and developing personal artistic identity in traditional and contemporary printing methods. Wood block, etching and monoprint methods will be explored.	
ART 112 - Drawing I 3	
Entry-level art course required for all art majors. Foundation course placing emphasis on drawing as an expressive medium. Content is based on a series of perceptual and conceptual assignments designed to force students to reach inside themselves to define, through their work, a sense of artistic self.	
ART 113 - Drawing II 3	
Prerequisite: ART 112. The second of a two-course sequence required for all art majors. Foundation course placing emphasis on drawing as an expressive medium. Students search for expression of their own personal artistic identity through a series of process-oriented assignments using various colored media.	
ART 114 - Figure Drawing I 3	
The human figure is analyzed in terms of structure, proportion and form. Emphasis is placed on representative as well as conceptual approaches.	
ART 115 - Figure Drawing II 3	
Prerequisite: ART 114. Continuation of the study of refining the student's technical skills in drawing. Emphasis is placed on technical skills rendering the figure, as well as conceptual approaches and development.	
ART 116 - Painting I 3	
Entry-level art course for both art majors and anyone interested in beginning painting. Foundation course that concentrates on painting as an expressive medium and is designed to allow students to explore a variety of subject matter and experiment with painting techniques in a search for personal artistic identity.	

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ART 117 - Painting II	3	ART 130 - Fiber Arts I	3
Prerequisite: ART 116. Continuation of the search for a personal expressive identity. The painter will work from sources they have a personal relationship with, such as persons they know, or familiar places and things. In addition to observable sources, the painter will be encouraged to respond to the materials used in a creative manner discovering that the process of painting itself suggests images and ideas. The painter will advance their personal expressive identity through making decisions and finding solutions while exploring representation, abstraction and non-objective painting.		Explores a variety of traditional and nontraditional mediums and techniques in the fiber arts. Emphasis is placed upon process and investigation.	
ART 118 - Painting III	3	ART 131 - Fiber Arts II	3
Prerequisite: ART 117 and consent of instructor. Students may concentrate in watercolor, oil, acrylics, or mixed media. Offered by appointment only.		Prerequisite: ART 130. Continuation of the study and exploration of traditional and nontraditional mediums and techniques in the fiber arts. Emphasis is placed upon process and further investigation of personal expression as well as development of craftsmanship through the fiber media.	
ART 120 - Modern Art History	3	ART 180 - Problems in Art	3
Required for art majors and serves as a fine arts course for those interested in modern art. Emphasis is placed on the creative nature of man and how creativity enriches society and the social, economic and political conditions that influenced and constructed modern art. Study begins with the development of impressionism and moves through the major art movements of the late 19th and 20th centuries.		Prerequisite: Consent of instructor. Must complete courses I and II of desired subject area. Independent study of a special problem in art under the supervision of an art instructor. Students will concentrate on a particular medium, subject or source. May be repeated in a different problem area.	
ART 122 - Sculpture I	3	<hr/> Autism <hr/>	
Develops insight into the principles of sculptural organization and stresses individual development of three-dimensional forms.		ATSM 105 - Autism Spectrum Disorders	3
ART 123 - Sculpture II	3	Examination of the neurological and behavioral characteristics of children with autism spectrum disorders. Course includes an overview of characteristics and learning traits, classification systems, assessment strategies/issues, approaches, and interventions related to individuals with autism spectrum disorders (ASD). Special emphasis will be given to selecting evidence-based practices and enhancing collaboration among individuals with ASD, their families and supporting professionals.	
Prerequisite: ART 122. Continuation of ART 122 with the student developing a body of work that is interrelated. Includes exploration of a variety of materials including metal, wood and found objects, with an emphasis placed on individual exploration and development.		ATSM 110 - Communication and Social Competence	3
ART 126 - Ceramics I	3	Overview of language development and communication strategies, issues, pragmatics, communication systems, augmentative and alternative communication systems (AAC), social deficits in autism, and approaches for teaching social skills. Includes an emphasis on the development of appropriate communication skills.	
Introduces clay construction techniques, basic ways of glazing and firing systems. Emphasis is placed on students acquiring technical proficiency in a variety of constructive methods and glazing techniques.		ATSM 115 - Sensory Integration	3
ART 127 - Ceramics II	3	Course assists educators, paraprofessionals, therapists, and program administrators in building supportive relationships as a foundation for designing appropriate learning experiences for children with autism. Using clinical and research-based feedback from parents of children with autism, the student will develop the knowledge and skills needed to communicate accurately and sensitively assist in the use and evaluation of intervention services and also help families manage short- and long-term issues.	
Prerequisite: ART 126. Continuation of ART 126 with students becoming more proficient in construction techniques that are appropriate for their ideas. Emphasis is placed on students developing a body of work that is interrelated.			

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ATSM 120 - Methods of Applied Behavior Analysis 3

Course includes an overview of basic principles of Applied Behavior Analysis (ABA) and utilization in educational settings. Basic principles include reinforcement, stimulus control, punishment, prompting, fading, generalization, and maintenance. Special emphasis will be given to the application of ABA principles to classroom settings. A historical perspective will be outlined concerning the application of ABA to individuals with autism, as well as the use of ethics in treatment and education. Evidence-based interventions for persons with autism will be covered including discreet trial, analysis of verbal behavior and direct instruction. Issues affecting persons with autism and their families that will be addressed include functional analysis, sleeping, eating, toileting/grooming, and determining credibility of treatments.

Automotive Technology

AUTO 100 - Introduction to Automotive Technology 3

Many fundamental principles necessary for laying a foundation in the automotive program are covered including shop safety, hazardous materials and environmental issues, hand tools, measuring tools, hardware, math related to the automotive industry, career/industry specific information, and an overview of many of the automotive systems. "Real-world fixes" and "tech tips" are included throughout to help illustrate how real problems are solved. Each new topic covers the preventive maintenance requirements for various components and automotive systems, including the purpose, function, and operation, as well as how to service each system. (2.25 lecture, .75 lab)

AUTO 103 - Manual Transmissions, Drivelines and Axles 5

Prerequisite: AUTO 100 with a grade of C or higher. Corequisite: AUTO 100. Instruction for the development of skills and knowledge required to diagnose and repair drivelines. Course covers clutches, transmissions, drive shafts, differentials, axles, wheels and bearings, transaxles, and four-wheel drive hub assemblies. (4 lecture, 1 lab)

AUTO 105 - Automatic Transmissions 5

Prerequisite: AUTO 100 with a grade of C or higher. Corequisite: AUTO 100. Designed to develop skills and knowledge required to diagnose and repair automatic

transmissions and automatic transaxles and torque converters. Topics include the study of automatic transmission design and theory of operation, along with in-and-out of vehicle repair and servicing. (4 lecture, 1 lab)

AUTO 106 - Power Train Management 5

Prerequisites: AUTO 100, AUTO 116, AUTO 118 with grades of C or higher. Automotive systems are studied in depth beginning with fundamental principles and quickly advance to more sophisticated theories and applications. Along with classroom studies in fuel and emissions systems, computerized engine controls, various input and output devices, ignition, intake and exhaust systems, and a lab will also enhance the learning experience with hands-on demonstrations and tasks. (4 lecture, 1 lab)

AUTO 108 - Advanced Engine Performance 6

Prerequisites: AUTO 100, AUTO 106, AUTO 116, and AUTO 118 with grades of C or higher. Advanced study of automotive diagnostic equipment and troubleshooting techniques related to modern vehicle powertrains. Study includes electronic engine controls including fuel injection, feedback systems, computer controlled engine management systems, scan tool, digital multimeter, lab scope usage, and diagnostic trouble code retrieval and troubleshooting. (5 lecture, 1 lab)

AUTO 113 - Steering, Suspension and Wheels 5

Prerequisite: AUTO 100 with a grade of C or higher. Corequisite: AUTO 100. Study develops skills and knowledge required to diagnose and repair steering and suspension systems including tire and wheel service, wheel balance, four-wheel alignment, springs and torsion bar suspension, power steering pump, steering gears, and rack and pinion steering. (4 lecture, 1 lab)

AUTO 115 - Automotive Brakes 5

Prerequisite: AUTO 100 with a grade of C or higher. Corequisite: AUTO 100. Theory of operation, diagnostics and troubleshooting, and repair and service of brakes will be taught, including modern anti-lock brakes and traction control systems. The diagnosis and repair of both drum and disc systems will be explored including the fabrication of brake lines as a student project. (4 lecture, 1 lab)

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AUTO 116 - Automotive Electrical System Fundamentals	3	AUTO 180 - Automotive Special Projects	3
Prerequisite: AUTO 100 with a grade of C or higher. Corequisite: AUTO 100. Students will develop skills and knowledge required to understand fundamental principles of electricity and how these principles apply to automotive systems. Study of wiring diagrams, electrical symbols and how to utilize appropriate equipment such as meters and scopes in the troubleshooting process will be included. (2.25 lecture, .75 lab)		Students will be involved in automotive lab operations including preventive maintenance and repair on equipment, tool inventory and management, ordering parts and supplies, assisting in lab set-up, recording customer repair orders, inputting data, and conducting industry specific research. There will be opportunities to work on unique automotive projects as well. (3 lab)	
AUTO 118 - Advanced Automotive Electrical and Electronics	3	<hr/> Business Administration <hr/>	
Prerequisites: AUTO 100 and AUTO 116 with grades of C or higher. An in-depth focus on electrical theory and the understanding and application of automotive electrical and electronic and computer systems as related to modern vehicle systems. Instruction includes methods to successfully troubleshoot vehicle electrical and electronic problems resulting in appropriate repairs. (2.25 lecture, .75 lab)		BADM 101 - Introduction to Business	3
AUTO 119 - Automotive Heating and Air Conditioning	5	Prerequisite: ENGL 060 with a grade of C or higher or equivalent placement scores. Introduction to the principles, practices and problems encountered in the general business environment. Topics include options for organizing a business, the basic functions of accounting, marketing, management, and finance.	
Prerequisites: AUTO 100, AUTO 116, and AUTO 118 with grades of C or higher. Students will develop skills and knowledge required to diagnose and repair problems related to automotive heating and air conditioning systems. Both automatic climate control and manual systems will be studied along with the engine coolant system. (4 lecture, 1 lab)		BADM 103 - Legal Environment of Business	3
AUTO 121 - Automotive Engines	6	Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Investigation of various legal issues encountered in the business environment. Emphasis is placed on developing an understanding of the court system. Includes specific legal topics such as contracts, torts, employment law, product liability, and consumer protection.	
Prerequisite: AUTO 100 with a grade of C or higher. Corequisite: AUTO 100. Student will develop skills and knowledge required to understand the fundamental principles, servicing, troubleshooting and repair of modern automotive engines. Study includes diagnosis and troubleshooting, removal, disassembly, cleaning, inspection and repairs, reassembly and installation of engine assemblies. Students work in pairs on project vehicles so that skills learned in the classroom can be exercised in a live environment. (4.5 lecture, 1.5 lab)		BADM 107 - Personal Finance	3
AUTO 123 - Service Operation Management	3	Prerequisites: ENGL 070 and MATH 061 with grades of C or higher or equivalent placement scores. Introduction to personal financial management. Examines the techniques necessary to analyze and make choices concerning major purchases, tax planning, insurance, borrowing, investing, and other personal finance issues.	
Students will be prepared to understand the variables encountered in operating a service business. Areas of content include management, finances, inventory, investment, organization, customer and employee relations, marketing, legal guidelines, and OSHA safety requirements.		BADM 109 - Business Ethics	3
		Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Overview of basic ethical principles related to business and society. Examines corporate social responsibility as well as ethical perspectives related to internal and external stakeholders.	

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Biology

BIO 100 - Introduction to Biological Sciences 3

Prerequisite: ENGL 101 with a grade of C or higher. Corequisite: ENGL 101. Introduction of biology that develops understanding of basic, unifying concepts in science and biology. Topics include the scientific method, biochemistry, cell biology, metabolism, genetics, evolution, ecology, and human ecology.

BIO 103 - Human Biology 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the structure and function of the human body and its systems. Topics include biochemistry, organization, homeostasis, structural maintenance of cells, tissues, organ systems of the human body, and ecology and the human influence on the biosphere. Course may NOT be taken if student already has credit for BIO 112, BIO 125, BIO 126, BIO 207 or BIO 208.

BIO 105 - Wildlife Conservation 3

Prerequisite: ENGL 101 with a grade of C or higher. Integrated study focused on historical, cultural and scientific aspects of wildlife conservation. Topics include ecology, diversity, extinctions and extinction processes, ecosystem degradation and loss, overexploitation, invasive exotics, zoos and gardens, public attitudes/perceptions including social factors, economics, ethics, and human impact. This is a reading and writing intensive course.

BIO 112 - Introduction to Biology with Lab 5

Prerequisites: ENGL 101 and MATH 112 with grades of C or higher. Corequisites: ENGL 101 and MATH 112. Introduction of biology that develops an understanding of basic, unifying concepts in science and biology through an investigative laboratory environment. Topics include the scientific method, biochemistry, cell biology, metabolism, genetics, evolution, ecology, and human ecology. (4 lecture, 1 lab)

BIO 121 - Microbiology for Allied Health with Lab 4

Prerequisite: BIO 207 or BIO 208 or CHEM 101. Course presents basic principles of infection, immunity and control of infectious microbes. Introduces bacteriology, virology, parasitology, and mycology. Designed for SFCC nursing and allied health majors. (3 lecture, 1 lab)

BIO 125 - Biology I with Lab 5

Prerequisites: ENGL 101 and MATH 112 with grades of C or higher. Corequisite: ENGL 101. First semester of a two-semester introduction to biological sciences

intended for biology and related majors. Topics include philosophical, historical and social context of biology; scientific method and investigative techniques; biological structure and function at molecular and cellular levels; genetics; and plant form, function and diversity. (3 lecture, 2 lab)

BIO 126 - Biology II with Lab 5

Prerequisites: BIO 112 or BIO 125 and ENGL 101 and MATH 112 with grades of C or higher. Corequisite: ENGL 101. Second semester of a two-semester introduction to biological sciences intended for biology and related majors. Topics include philosophical, historical and social context of biology; animal morphology, embryology and taxonomy and systematics; life histories; ecology; and evolution. (3 lecture, 2 lab)

BIO 130 - Topics in Biology 1 to 3

Study of a major topic in biology and science. Content and topics change and may include ecology, bio-history, evolution, science in science fiction, or history of science. Specific subjects will be announced prior to course offerings.

BIO 207 - Human Anatomy with Lab 4

Prerequisites: ENGL 070 with a grade of C or higher or equivalent placement scores, and a high school biology course with a grade of C or higher or a college biology course with a grade of C or higher (BIO 103 is recommended, but not required). Study of gross and microscopic anatomy of the human organs, tissues and systems. (2 lecture, 2 lab)

BIO 208 - Human Physiology with Lab 4

Prerequisite: BIO 207 with a grade of C or higher. Course presents the basic biological functions of the human body from cell to tissue, tissue to organ, and organ to organ system with attention to the interrelationships at these levels. (3 lecture, 1 lab)

BIO 210 - Principles of Genetics with Lab 4

Prerequisites: BIO 112 or BIO 125 and ENGL 101 and MATH 112 with grades of C or higher or equivalent placement scores. Course is a comprehensive introduction to fundamental principles of inheritance intended for biology and related majors. Topics include heredity concepts from classical and modern genetics; the physical, biochemical, chromosomal, cytological bases for inheritance patterns; selection and breeding; and evolution. (3 lecture, 1 lab)

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BIO 215 – Pathophysiology 3

Prerequisites: BIO 207 and BIO 208 with grades of C or higher. Introduction to the nature of disease and its effects on body systems. Course deals with disease processes affecting the human body via an integrated approach to specific disease entities.

BIO 280 - Problems in Biology 1 to 3

Prerequisite: Consent of instructor. Independent course presenting the study of a special problem in biology under the supervision of a science instructor.

Building Materials

BLDG 175 - Building Materials Internship 4 to 8

Prerequisite: Consent of program coordinator. Cooperative work experience within the building materials industry setting for building materials students. Student will work as a management-level employee for an established building materials related firm. Periodic site visits and employer interviews by the instructor will ensure that student is performing meaningful management level functions and is generally meeting the expectations of the course.

BLDG 180 - Problems in Building Materials 1 to 3

Prerequisite: Consent of program coordinator. Independent study of a special problem in building materials under the supervision of an instructor.

Business Management

BSMT 106 - Principles of Marketing 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the key concepts and issues underlying the modern practice of marketing that impact today's managers. The marketing process is analyzed through the four main decision areas of products and services, distribution, promotion, and pricing.

BSMT 108 - Principles of Management 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the theory and practice of management covering the basic functions of management: planning, organizing, leading, and controlling.

BSMT 110 – Salesmanship 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the study of selling as a major function of the marketing mix. The focus is on consumer behavior, selling techniques and includes one role play sales presentation.

BSMT 115 - Principles of Supervision 3

Course is designed for the first-line foreman or supervisor. Topics include how to supervise, leadership styles, employee communications, human relations, delegation, discipline, and grievance procedures.

BSMT 117 - Human Resource Management 3

Prerequisite: BSMT 108. Introduction to the human resource management functions including recruitment and selection, equal employment opportunity compliance, development and training, performance appraisal, compensation, and employee benefits.

BSMT 118 - Retail Marketing 3

Prerequisite: BSMT 106. Introduction to the key concepts within the retail environment and its relationship to consumer demographics, trends and retail markets. Demonstrates applications of retail techniques and the factors that influence modern retail. Retail strategy, customer service, and visual elements in store layout and merchandising will be included.

BSMT 119 - Customer Service Management 3

Prerequisite: BSMT 106. Introduction to the customer service function of business. Students will acquire and apply communication skills needed to be successful in today's competitive customer-oriented work environment. Topics include communication, leadership, relationship building, customer retention, problem solving, and measurement of satisfaction.

BSMT 120 – Advertising 3

Prerequisite: BSMT 106. Introduction to the field of advertising with an emphasis on consumer behavior, research data, strategic planning, and brand positioning. An original ad campaign is created using creative product strategies.

BSMT 125 - Human Relations 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the concept of business organizations as a social system. Topics consist of motivation, perception, communication, behavior theories, and group dynamics. Utilizes activities in the classroom to demonstrate major human relations concepts.

BSMT 130 - Business Strategies 3

Prerequisites: ACCT 102, BSMT 106, BSMT 117, and ECON 101. Corequisite: ACCT 102. Capstone course that provides business management students with an understanding of the total enterprise system. Students will draw upon prior coursework to solve business problems.

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BSMT 175 - Business Management Internship 3 or 6

Prerequisite: Consent of program coordinator. On-the-job experience tailored to enforce topics taught within the degree. Student supervision will be the cooperative arrangement between the student's academic advisor and employer. Progress reports and a final report documenting work experience will be submitted. An approved three-hour program elective may fulfill the internship requirement.

BSMT 185 - Project Management 3

Prerequisite: CAPP 125. Course will assist students to adapt to changes taking place in the programming, business, construction, and engineering fields. Course will assist students in writing specifications and understanding project timelines. The course will also prepare students toward the CAPM certification exam. Same as CIS 185.

Computer Aided Drafting

CAD 105 - Print Reading 3

Course is designed for students in technical programs who require an understanding of basic mechanical drawing, architectural print reading and welding symbols. Students will gain knowledge of orthographic projection, geometric construction, section views, auxiliary views, and technical notation, dimensioning and tolerancing. Students will understand architectural plot plans, floor plans, elevations, schedules, and wall and building sections. Included are the interpretations of drawings, welding symbols, notations, and technical information.

CAD 111 - Introduction to Computer Drafting 3

Introduction to Computer Aided Drafting (CAD) software. Students will gain knowledge in the use and principles of CAD. Manual drafting concepts and tools will be discussed. Emphasis will be placed on the application of AutoCAD software. Specific hardware used in the CAD environment will be introduced and utilized. Basic concepts covered include drawing setup, two-dimensional entity creation, coordinate entry methods, and drawing aids.

CAD 113 - Intermediate Computer Drafting 3

Prerequisite: CAD 111. Continuation of CAD 111 emphasizing the principles of drafting utilizing Computer Aided Drafting (CAD) software. Students will gain knowledge of drafting fundamentals, drafting techniques and skills, descriptive geometry, CAD application, and drafting and design applications.

Students will apply the knowledge of the principles of drafting using AutoCAD software. Section views, pictorial drawings, auxiliary views, text, dimensioning, and tolerancing will be covered.

CAD 115 - Advanced Computer Drafting 3

Prerequisite: CAD 113. Introduction to three-dimensional drawings and modeling, wire frame modeling, surface modeling, rendering, and solid modeling using AutoCAD software. Course covers the necessary skills to become proficient in working with three-dimensional objects in preparation to meet the requirements of a CAD technician.

CAD 116 - Computer Drafting Programming 3

Prerequisite: CAD 115. Study of customizing AutoCAD software. Course covers customizing menus and creating slides and scripts. The use of the AutoLISP and visual basic programming language as customizing tools will be introduced. Importing and exporting drawing information through digitizing, raster image files and database connectivity will also be covered.

CAD 120 - Architectural Drafting 3

Introduces students to the uses of Computer Aided Drafting (CAD) as it relates to architectural design. Course covers the use of CAD in preparing construction documents and three-dimensional models of buildings. Architecture terminology, building techniques, building conventions, building design, and architecture-related information will be introduced.

CAD 125 - Architectural Applications 3

Prerequisite: CAD 113 or CAD 120. Architectural modeling and drafting course utilizing popular 3D CAD software application(s). Course uses commercial based architectural software to model walls, doors, windows, floor plans, roof, kitchen appliances, bathroom fixtures, and other components of a building. Students will generate dimensioned plans, sections, elevations, and wall sections from the 3D digital model. Students will also create a digital walk-through and rendered images of the model.

CAD 130 - Solid Modeling I 3

Entry-level solid modeling and design course. Students will gain an understanding of 3D and parametric solid modeling using Autodesk Inventor. Included are the development and generation of 2D sketches, 3D solid models, assemblies, creation of multiview drawings from solids geometry, analyzing solids, shading and rendering topics, and the development of physical models with rapid prototyping equipment.

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- CAD 132 - Solid Modeling II** 3
Prerequisite: CAD 115 or CAD 130. Continuation of CAD 130. Students will gain an understanding of different 3D and parametric solid modeling applications using SolidWorks and Autodesk Inventor. Studies include developing and generating advanced 2D and 3D sketches, solid models, assemblies, and creating complex and detailed drawings, analyzing and testing solid models, and developing physical models with rapid prototyping equipment.
- CAD 134 - CAD/CAM** 3
Prerequisite: CAD 130 or MACH 109. Course teaches principles of Computer Aided Machining (CAM) and Computer Numerical Controlled (CNC) machining including lathes and mills utilizing MasterCAM and other CAD/CAM software. Students will design 3D parts, generate CAM code, tool paths and graphically verify tool paths. Students will develop physical models with rapid prototyping and CNC equipment.
- CAD 136 - Engineering Graphics** 3
Prerequisite: CAD 115. Capstone of the series of courses utilizing AutoCAD software. Students will gain knowledge of pictorial drawings, geometric dimensioning and tolerancing; drawings for numerical control, welding drawings, design concepts, belts, chains, gears, couplings, bearings, and seals; developments and intersections, pipe drawings, structural drafting, jigs and fixtures; and electrical and electronics drawings.
- CAD 155 - 3D Visualization** 3
Explores the creation of photo realistic 3D objects and animation using Autodesk 3D VIZ software. Covers the necessary skills to become proficient in working with three-dimensional objects and animations. Course includes creating a scene, creating shapes, modifying splines, lofting objects, twisting objects, creating curved paths, deformation tools, creating objects, materials, and 3D animation and rendering.
- CAD 175 - CAD Internship** 4
Prerequisites: CAD 115 and consent of program coordinator. Cooperative work experience within an industry setting for CAD students. Students work under the supervision of an approved professional or specialist in the CAD field. The instructor is a coordinator between the student and the employer and monitors the internship. A minimum of 160 work (clock) hours on the jobsite is required for successful completion of the course. The students will submit progress reports and a final report documenting the work experience.
- CAD 180 - Problems in CAD** 3
Prerequisites: CAD 115 and consent of program coordinator. Independent study of special problems and/or projects in CAD in which the student works with industry and/or the instructor to solve a specific problem or project.
- CAD 190 - CAD Capstone** 3
Prerequisites: CAD 115 and consent of program coordinator. Independent study project in architectural, civil, mechanical or other CAD related field in which the student completes a complex project with instructor input and guidance. Capstone course to promote critical thinking skills and technical resourcefulness while allowing the student to broaden CAD skills.
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- Computer Applications**
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- CAPP 124 - Introduction to the Personal Computer** 1
Designed for those with very limited or no computer experience. Emphasis is placed on keyboard and mouse usage, the Windows operating system, file storage, and software options. Includes hands-on instruction in the computer lab. This is a pass/fail course.
- CAPP 125 - Microcomputer Applications** 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Keyboarding proficiency is recommended. Learn the operations of personal computers through the use of Microsoft Office Professional software. Applications include fundamentals of word processing, spreadsheets, database management, and presentations.
- CAPP 160 – Word** 3
Prerequisite: CAPP 125 with a grade of C or higher. Course needs to be taken within the last five years. Course is designed for Windows users who seek further knowledge of the word processing program, Microsoft Word.
- CAPP 162 - Desktop Publishing** 3
Introduction to the basics of electronic page layout using professional publishing software. Valuable skills will be gained in image scanning, manipulation and merging text and graphics.
- CAPP 164 – Access** 3
Prerequisite: CAPP 125 with a grade of C or higher. Course needs to be taken within the last five years. Course is designed for Windows users who seek further knowledge of the database program, Access.

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CAPP 166 – Excel 3
Prerequisite: CAPP 125 with a grade of C or higher.
Course needs to be taken within the last five years.
Course is designed for Windows users who seek further knowledge of the spreadsheet program, Excel.

Chemistry

CHEM 101 - Introduction to Chemistry with Lab 5
Prerequisite: ENGL 101 with a grade of C or higher.
One-semester course for non-science majors designed to acquaint the student with scientific reasoning. A writing intensive course that introduces the principles of the nature of matter/atom, reactions, reaction pathways, solutions, measurements, instrumentation, nuclear chemistry, and organic/biological molecules and their applications to current issues. (3 lecture, 2 lab)

CHEM 123 - General Chemistry I with Lab 5
Prerequisites: ENGL 070 and MATH 114 with grades of C or higher or equivalent placement scores. Intended for the science major and science-oriented fields; examines the structure of the atom, periodic classification, molecular structures, chemical reactions, aqueous solutions, and chemical energetics. (3 lecture, 2 lab)

CHEM 124 - General Chemistry II with Lab 5
Prerequisite: CHEM 123. Continuation of CHEM 123 emphasizing chemical energetics, entropy, equilibria, reduction-oxidation systems and reaction pathways in organic/biochemistry. (3 lecture, 2 lab)

CHEM 180 - Problems in Chemistry 1 to 3
Prerequisite: Consent of instructor. Independent study and/or lab investigation of a special problem in chemistry. Instruction varies between 1 to 3 lecture hours and 1 to 3 lab hours.

CHEM 221 - Organic Chemistry I with Lab 5
Prerequisite: CHEM 123 with a grade of C or higher.
The first of a two-semester sequence in organic chemistry studies the structure, bonding, and nomenclature of organic compounds (alkanes, alkenes, alkynes, and conjugated systems); substitution and elimination reaction mechanisms; identification of organic compounds via UV, VIS, IR, GC, and NMR spectroscopy. (3 lecture, 2 lab)

CHEM 222 - Organic Chemistry II with Lab 5
Prerequisite: CHEM 221 with a grade of C or higher.
Continuation of CHEM 221 including the study of the reactions associated with aromatic compounds carbonyl compounds and polyfunctional natural products. (3 lecture, 2 lab)

CHEM 265 - Elementary Organic and Biochemistry with Lab 5
Prerequisite: Any CHEM course with a grade of C or higher. Introduction to organic chemistry and the fundamental concepts of biochemistry. Topics include functional groups, nomenclature, reactivity, organic reaction mechanisms and explores molecules associated with life functions, emphasizing physiological, nutritional and comparative aspects. Required for some non-chemistry degrees; generally does not transfer for chemistry majors. (3 lecture, 2 lab)

Computer Information Systems

CIS 103 - Introduction to CIS 3
Course teaches the skills necessary to understand the logic of computer programming, design and structure. Students will be presented effective tools needed to enhance their knowledge of using the latest innovations in technology.

CIS 124 - Database Management 3
Course implements the relational database management system tasks. Topics include creating databases, storing, lists and displays, indexing, report generating, creating labels, constructing screens, programming skills, control structures, menus, multi-file programming, and special techniques.

CIS 145 - Visual Basic 3
Course provides an introduction to programming within a graphical environment. Application development will focus on the process of designing, building and maintaining projects that may be used within a business setting. The end product will increase the efficiency and productivity of the organization. Instruction will include interactive design, game programming and database access.

CIS 148 – COBOL 3
Computer programming course that will use the COBOL programming language in a business environment. Instruction will include data editing, arithmetic calculations, if/then structures, loop processing, conditional statements, control level breaks, tables, and evaluate statements.

CIS 149 - Advanced COBOL 3
Prerequisite: CIS 148 with a grade of C or higher.
Advanced COBOL programming techniques are presented in this course. Instruction covers tables, call statements, multi-file processing, and end-user interaction.

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CIS 151 - DB2 Relational Database 3	CIS 165 - Oracle II-PL/SQL 3
Prerequisite: CIS 148 with a grade of C or higher. Course prepares students for programming in the DB2 environment. DB2 is a relational database. A substantial portion of the course will use SQL statements for maintaining a database.	Course instructs the student in topics related to Oracle PL/SQL (Procedure Language/Structured Query Language). Subjects will include invoker's rights, object patterns, database management, and Java libraries.
CIS 155 - Programming in C# 3	CIS 168 - Game Programming 3
Programming language C# is introduced as an application programming language. Top-down program development methodologies are discussed. Instruction includes learning the different C# language features to develop application programs.	Fundamentals of how to write computer games in the C# programming language using Direct3D, DirectSound, DirectX, and DirectInput. Students will receive knowledge of game programming using 3D modeling, collision detection and animation. No previous knowledge of HTML or Web design is assumed. Students are required to purchase a mass storage device such as a thumb or jump drive.
CIS 157 - Advanced C# 3	CIS 169 - Advanced JAVA 3
Prerequisite: CIS 155 with a grade of C or higher. Course presents advanced C# programming techniques. Instruction includes data manipulation, file handling, logic processing, database access, and maintenance through SQL commands.	Prerequisite: CIS 158 with a grade of C or higher. Project oriented programming course that builds upon the knowledge presented in CIS 158. Topics will include database connectivity, sockets, advanced GUI programming, multi-threading, and data structures.
CIS 158 - JAVA 3	CIS 175 - CIS Internship 4 to 8
Introduction to object-oriented programming with a major emphasis in developing GUI based applications for business settings, Web pages and smart devices.	Prerequisite: Consent of program coordinator. Includes a minimum of 160 clock hours of supervised work experience that allows the student to apply CIS operation and programming theory. Recommended to be taken during the last year of study.
CIS 161 - Systems Analysis 3	CIS 179 - Programming Project 4
Prerequisite: CIS 124 with a grade of C or higher. Content includes the analysis and identification of multi-user computer system development. Documentation of systems requirements is stressed.	Prerequisite: Consent of instructor. Must be taken during the last semester of study before completion of the CIS degree. Includes individually designed assignments that require students to develop and test a program and document program results.
CIS 162 - Advanced Visual Basic 3	CIS 180 - Problems in CIS 1 to 3
Prerequisite: CIS 145 with a grade of C or higher. Course is for the Visual Basic programmer who would like to program commercially in Visual Basic. Course covers file handling, multiple document interfacing, database maintenance, creating Crystal Reports, and creating Web Applications.	Prerequisite: Consent of program coordinator. Independent study of a special problem in computer systems arranged under the supervision of a CIS instructor.
CIS 163 - Visual Basic with SQL 3	CIS 185 - Project Management 3
Prerequisite: CIS 145 with a grade of C or higher. Course is designed to teach extensive database administration. As databases are an integral part of interactive Web and business design, the course will be useful for commercial development. Extensive use of SQL commands will be covered.	Prerequisite: CAPP 125. Course will assist students to adapt to changes taking place in the programming, business, construction, and engineering fields. Course will assist students in writing specifications and understanding project timelines. The course will also prepare students toward the CAPM certification exam. Same as BSMT 185.
CIS 164 - Oracle I-Oracle SQL 3	
Course provides the fundamental skills in SQL with additional coverage of Oracle's implementations of SQL. Course is designed to provide a practical working knowledge of essential Oracle database skills and technologies.	

SECTION 3 / COURSE DESCRIPTIONS

Criminal Justice

CJ 101 - Introduction to Law Enforcement 3

Examines the history of policing in the United States and an overview of the relationship between law enforcement and the American society. Includes an examination of the duties of law enforcement officers, the operations of police agencies, police-community relations, the police subculture, and the need for police objectives to conform to constitutional procedures.

CJ 102 - Introduction to Criminal Justice 3

Examines the history, development and function of the criminal justice system in America. Will examine the three major components of the system: police, courts and corrections, as well as their interrelationships.

CJ 103 - Traffic Safety and Investigation 3

Prerequisites: CJ 102 and ENGL 101 with grades of C or higher. Introduces traffic control and accident investigation in modern cities; reviews principles of organizing and administering police units for traffic enforcement, accident prevention and safety education; and presents basic techniques of accident investigation, analysis and interpretation.

CJ 104 - Criminal Investigation 3

Prerequisites: CJ 102 and ENGL 070 with grades of C or higher or equivalent placement scores. Course includes theory, methods and procedures of criminal investigation with attention given to its historical origins, the investigator, organization, and management of the investigative function and various investigative methods such as crime scene investigation, techniques of interviewing, collection of evidence, suspect development, and case preparation.

CJ 105 - Criminal Law 3

Prerequisites: CJ 102 and ENGL 070 with grades of C or higher or equivalent placement scores. Examination of criminal, common and statutory law with its application to the criminal justice system. Emphasis will be placed on the classification of crime and criminal behavior including the necessary elements and mental states of criminal acts. Course will also examine criminal acts based on Missouri criminal statutes.

CJ 107 - Criminology 3

Prerequisites: CJ 102 and ENGL 070 with grades of C or higher or equivalent placement scores. Examines the various theories of criminal behavior and crime causation, as well as the problems of treatment, corrections and control of crime. Will also look at patterns of crime, research methods and the response to criminal behavior.

CJ 109 - Juvenile Delinquency 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Examines the origins, philosophy and objectives of the juvenile justice system in America including the concept of juvenile delinquency and its causes, juvenile case dispositions and juvenile detention procedures. Close attention will be placed on the organization, function and jurisdiction of juvenile justice agencies and the application of the Missouri Juvenile Code.

CJ 111 - Introduction to Corrections 3

Fall semester only. Examines the history, development and present components of both institutional and community based corrections in America.

CJ 115 - Procedural Law 3

Prerequisites: CJ 102 and ENGL 070 with grades of C or higher or equivalent placement scores. Fall semester only. Examines the U.S. Constitution, court cases, statutes, and other sources of regulation in the field of criminal procedure. These regulatory documents will be examined and considered as to how they apply to criminal law and the administration of justice. Specific issues covered include search and seizure, interrogations and confessions, grand jury investigations, identification procedures, and the right to counsel.

CJ 118 - Criminal Justice Communications 3

Prerequisites: CJ 102 and ENGL 101. Spring semester only. Provides direction and guidance for students seeking entry-level careers in law enforcement and corrections with additional examination of written and verbal communications. Provides instruction concerning reporting factual information in an accurate and proper format. In addition to reinforcing basic writing tools, course will stress the components of typical police writing formats. Topics such as interviewing and interrogation techniques and courtroom testimony will also be covered. Course should be taken during the last semester of study if possible.

CJ 122 - Current Events in Criminal Justice 3

Prerequisites: CJ 102 and ENGL 070 with grades of C or higher or equivalent placement scores. Spring semester only. Provides an intensive examination of major issues affecting the criminal justice system and their interaction with society and the democratic process. Topics may include capital punishment, terrorism, drug abuse, and serial killers.

SECTION 3 / COURSE DESCRIPTIONS

CJ 124 - Drugs, Society and Criminal Justice 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Designed to provide an overview of the relationship between drugs and crime as well as the response of the criminal justice system to illegal drug use. Course includes current U.S. drug abuse trends and patterns; review of the history of drug abuse and legal attempts to control such abuse; exploring the physiological, psychological and sociological effects of commonly abused drugs; and a discussion of the connections between drug abuse and crime.

CJ 175 - Supervised Occupational Experience in Criminal Justice 4

Prerequisites: CJ 102 and consent of program coordinator. Provides students with the opportunity to observe and experience the operation of a selected agency within the criminal justice system. Program will require the student to spend a minimum of 160 hours with the agency during the semester, as well as the completion of other requirements. Students will be required to correspond with the instructor.

CJ 180 - Problems in Criminal Justice 1 to 3

Prerequisites: CJ 102 and consent of program coordinator. Independent study of a special problem in criminal justice under the direct supervision of a criminal justice instructor.

Construction Technology

CNST 101 - Construction Materials and Methods I 3

Provides basic knowledge of methods and materials historically and currently in use in the construction industry, as well as an exploration into potential future techniques and materials as technology progresses. Proper selection and application of the various materials and methods are discussed. Construction methods and materials are organized by the Construction Specification Institute (CSI) into major divisions. Course is designed to address the first half of the major divisions of the CSI format and is offered in conjunction with CNST 103 in order to provide a comprehensive base of knowledge in all major divisions.

CNST 103 - Construction Materials and Methods II 3

Provides a basic knowledge of methods and materials historically and currently in use in the construction industry, as well as potential future developments in technology. Course is designed to address the second half of the major divisions of construction materials and

methods as detailed in CSI format. CNST 101 and CNST 103 may be taken out of sequence as each category is studied independently of the others. Having completed both CNST 101 and CNST 103, the student will have been exposed to all major divisions of the construction industry and will have a working knowledge of the materials and methods used in each of these divisions.

CNST 106 - Construction Estimation 3

Examines the methods used in cost estimating in the construction industry. Skills such as quantity take-off, measurement, quote and bid solicitation, etc., are developed, as well as discussion of strategy involved in bid formulation and submissions. Computerized and manual estimating techniques are explored. Course will require completion of cost estimates for residential, commercial, industrial, or heavy construction projects.

CNST 113 - Construction Management 3

Discusses careers in construction, as well as the general business operations involved in the construction industry. Basic overview of the legal structure of businesses, contract terms and the roles of stakeholders in a construction project.

CNST 138 - Construction Planning and Scheduling 3

Discusses methods of organizing work items associated with a construction project into a logical sequence optimizing efficiency and profitability. Manual and computerized scheduling methods are used in developing project schedules for both real and simulated projects.

CNST 142 - Building Mechanical Systems 3

Introduction to the understanding of components and design of major building mechanical systems. Topics include electrical, plumbing and HVAC systems in buildings. Design calculations for proper sizing of system components are discussed, as well as the various methods and materials used in the construction of such systems.

CNST 145 - Construction Methods I 3

Students will study the methods used to install various construction materials related to the major divisions of the Construction Specification Institute (CSI) format.

CNST 146 - Construction Methods II 3

Continuation of CNST 145 for students in their second year of trade school. Students will study the methods used to install various construction materials related to the major divisions of the Construction Specification Institute (CSI) format.

SECTION 3 / COURSE DESCRIPTIONS

CNST 148 - Construction Codes and Law 3

Overview of legal requirements related to the design and execution of construction projects. The International Building Code is studied and upon completion of the course, the student will be capable of navigating it and many other similar reference manuals. Other legal aspects of the construction industry are discussed including, but not limited to, contract law and liability issues.

CNST 152 - Sustainable Practices in Construction 3

Course covers various sustainable programs utilized for construction, such as LEED, Green Globes, Energy Star, and National Green Building Standard, USGBC, and the GBCI. Course prepares the student to sit for the LEED (GA) Exam at the end of the course and the LEED AP BD+C Exam as well.

CNST 160 - Statics and Strength of Materials 3

Prerequisite: MATH 108 or MATH 114 or equivalent placement score. Introduces the fundamentals of structural analysis and design. Materials and structural systems are discussed in terms of load bearing properties, as well as economy of construction. Students will gain a greater understanding of how structures work and how choices are made regarding the selection of appropriate materials and systems to meet a given need.

CNST 162 - Construction Safety 3

Comprehensive discussion of job safety and best practices as they pertain to the construction industry. A general philosophy of safety awareness is achieved through study of specific hazards and case studies. Students learn to navigate OSHA regulations and legal implications on the construction industry.

CNST 175 - Construction Management Internship 4 to 8

Prerequisite: Consent of program coordinator. Cooperative work experience within the construction industry setting. Student will work as a management-level employee for an established construction related firm. Periodic site visits and employer interviews by the instructor will ensure that student is performing meaningful management level functions and is generally meeting the expectations of the course.

Certified Production Technician

CPT 102 – Safety 3

Safety training to prepare an individual for entry-level employment in a production position with the ability to

work in a safe and productive manufacturing workplace. Skill areas include performing safety and environmental inspections; performing emergency drills and participating in emergency teams; identifying unsafe conditions and taking corrective action; providing safety orientation for all employees; training personnel to use equipment safely; suggesting processes and procedures that support safety of work environment; fulfilling safety and health requirements for maintenance, installation and repair; monitoring safe equipment and operator performance; and utilizing effective, safety-enhancing workplace practices.

CPT 104 - Quality Practices and Measurement 3

Quality skills for the entry-level production employee to participate in periodic internal quality audit activities. Skill areas include checking calibration of gages and other data collection equipment; suggesting continuous improvements; inspecting materials and product/process at all stages to ensure they meet specifications; documenting results of quality tests; communicating quality problems; taking corrective actions to restore or maintain quality; recording process outcomes and trends; identifying fundamentals of blueprint reading; and using common measurement systems and precision measurement tools.

CPT 106 - Manufacturing Processes and Production 3

Entry-level production skills include identifying customer needs; determining resources available for the production process; setting up equipment for the production process; setting team production goals; making job assignments; coordinating work flow with team members and other work groups; communicating production and material requirements and product specifications; performing and monitoring the process to make the product; documenting product and process compliance with customer requirements; and preparing final product for shipping or distribution.

CPT 108 - Maintenance Awareness 3

Prepare the entry-level production worker in the importance and operations of maintenance. Areas of study include performing preventive maintenance and routine repair; monitoring indicators to ensure correct operations; performing all housekeeping to maintain production schedule; and recognizing potential maintenance issues with basic production systems, including knowledge of when to inform maintenance personnel about problems with electrical, pneumatic, hydraulic and machine automation systems; lubrication processes; bearings and couplings; and belts and chain drives.

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Dance

DANC 100 - Beginning Ballet 1

Fundamental techniques of classical and modern approaches to the language of ballet with an emphasis on alignment and basic vocabulary. Designed for students with little or no dance experience.

DANC 105 - Jazz Dance 1

Fundamental techniques of basic jazz dance. Designed for students with little or no dance experience.

Dental Hygiene

DH 105 - Introduction to Dental Hygiene 6

Course is designed to acquaint the student with the professional, educational and therapeutic services of a dental hygienist and provide the background, knowledge and skills necessary to function in subsequent dental hygiene clinical courses. (2 lecture, 4 lab)

DH 106 - Dental Clinical Emergencies 1

Course presents procedures to properly control bleeding, choking, possible broken bones, and other common medical emergencies, as well as emergencies specific to the dental office. Information is also included concerning emergency protocol and medications used in the dental office. Adult, child and infant CPR, choking, and child and adult AED are included. Upon successful completion of this course, the student will receive certification from the American Heart Association for Health Care Provider CPR/AED.

DH 107 - Dental Radiography 2

Radiography equips the dental hygiene student with the skills necessary for exposing and processing dental radiographs. Biological and safety procedures are discussed and skills are practiced on mannequins prior to proceeding with clinical patient exposures. Students are also introduced to the basics of recognizing anatomical landmarks, pathologies and technique errors on dental radiographs. The student will also be exposed to digital radiography technology. (1 lecture, 1 lab)

DH 109 - Oral Anatomy and Histology Lab 1

Course consists of a lab manual with handouts and activities that are congruous with the lecture presented through Interactive Television from Northcentral Technical College in Wausau, Wisconsin. Grading is based upon tooth identification through ID tests and several projects, including a skull project where the student will draw arteries and veins on a skull, as well as mold with clay. (1 lab)

DH 110 - Clinical Dental Hygiene I 6

Prerequisite: DH 105. Course is designed to apply the basic principles of dental hygiene instrumentation and patient treatment in a clinical setting. Emphasis on evidence-based decision making is guided by the student's own examination into the research and literature reviews. The principles of ultrasonic scaling, instrument sharpening and patient education will be introduced and built upon as the semester progresses. The student will also refine calculus detection. Students will be introduced to the concept of complete data assessment and use of the data to formulate patient care plans. Gingival, plaque and bleeding indices will be used to describe patient conditions. The clinical method of instruction and evaluation is competency-based. (2 lecture, 4 lab)

DH 112 - Clinical Dental Hygiene II 4

Prerequisite: DH 110. Course continues skill development in the provision of dental hygiene care. Students continue clinical skill development by creating care plans that emphasize data assessment, analysis of risk factors and sequencing of care. The classroom portion will emphasize the management of patients with sensitivity, dental therapeutics and the delivery of locally applied antimicrobials. The clinical method of instruction and evaluation is competency-based. (1 lecture, 3 lab)

DH 114 - Clinical Dental Hygiene III 8

Prerequisite: DH 112. Course continues skill development in the provision of dental hygiene care. Clinical emphasis will be on the treatment of advanced periodontal cases. The classroom portion will deal with the management of patients with special physical, mental, social, and emotional needs, and content regarding patients with medically compromised conditions. The clinical method of instruction and evaluation is competency-based. (2 lecture, 6 lab)

DH 116 - Clinical Dental Hygiene IV 8

Prerequisite: DH 114. Dental hygiene skills will be perfected in this course. Non-surgical periodontal techniques and other supplemental care procedures will be emphasized in the classroom. Students will be encouraged to make clinical decisions based on the evidence and will learn to critically evaluate the literature. Didactic instruction will be case-based. The clinical method of instruction and evaluation is competency-based. (2 lecture, 6 lab)

DH 118 - Principles of Periodontics 2

Biological and clinical aspects of periodontal health and pathology. Introduction to the supporting structures of

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the teeth will provide the foundation for understanding pathogenesis, histopathology and subsequent therapeutic treatment of periodontal diseases. The dental hygienist's role in recognition, prevention and treatment of periodontal diseases and maintenance of periodontal health is examined. The student will be immersed in a variety of educational settings and evaluation techniques through classroom cooperative learning and topic presentation as well as synthesis of knowledge with an actual clinic patient.

DH 119 - Advanced Periodontics Practicum .5

Course gives the dental hygiene student a firsthand experience in specialty practices of periodontists. Area periodontics and general practitioners will give their time and expertise to guide the student through actual surgical procedures, such as periodontal surgery and implantology to solidify the conceptualization of the classroom experience. (.5 lab)

DH 120 - Dental Biomaterials with Lab 2

Students will study the chemistry of biomaterials used in the oral cavity and how to discern what products to use when taking impressions, creating study models, polishing resin or alloy filling, and delivering dental sealants. Students will use alginate materials to take an impression and resins to produce a dental sealant. Other activities include personal mouth protection devices, placing a rubber dam, polishing a restoration, mixing cements, dental alloys and impression materials, as well as using periodontal dressing and removing sutures. (1 lecture, 1 lab)

DH 124 - Applied Nutrition and Oral Health Education 2

Course will present the sources and uses of nutrients and provide a biochemistry background for the metabolism of these dietary components. Course will prepare the dental hygiene student to fulfill his or her role in oral health education as it relates to patient home care habits, motivation and dietary effects on the oral cavity.

DH 126 - Community Dental Health 1

Provides a study of the principles of public health and the methods used in assessing, planning, implementing, and evaluating dental health programs. In addition, content will include basic principles of research.

DH 127 - Community Dental Health Lab 1

Prerequisite: DH 126. Course will allow the student to apply the basic principles of assessing, planning,

implementing, and evaluating a community dental health program. Students will participate in health fairs, screenings, educational programs, and table clinic presentations. Two hours of community lab activities per week. (1 lab)

DH 128 - Local Anesthesia 2

Course is designed to prepare dental hygiene students for the safe, effective administration of local anesthesia. Included are content areas in anatomy, physiology, pharmacology, and emergency management. Laboratory sessions provide actual experiences in administration of local anesthetics. (1 lecture, 1 lab)

DH 130 - Pharmacology 2

Provides basic drug terminology, general principles of drug interactions, routes of administration, adverse reactions, and drugs that alter dental treatment. Emphasis will be placed on knowledge of drugs in the understanding of a patient health history and development of a care plan.

DH 132 - Dental Hygiene Ethics and Legal Issues 2

Designed to provide the student with knowledge of professional development, ethics and jurisprudence as related to clinical practice. Topics will include basic principles of ethics, conflict management, state dental laws, and legal liabilities of health care professionals. Professional conduct and roles in professional organizations are fostered through knowledge of the code of ethics of the profession and political involvement. The Missouri State Jurisprudence test is the final for this course.

Diagnostic Medical Sonography

DMS 100 - Diagnostic Medical Sonography Prep Workshop .5

Prerequisite: Consent of instructor. Students who meet minimum eligibility requirements upon application to the Diagnostic Medical Sonography program will be invited to the workshop. If invited, the applicant must attend the workshop to be considered for the program. The workshop will inform potential students of all aspects of the program, profession and review program requirements. A test is administered to evaluate essential academic skills and critical thinking skills. Students will be invited to the workshop as a part of the application process; it is not a course in which a student can enroll. This is a pass/fail course.

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<p>DMS 102 - Patient Care and Health Care Communication 2</p> <p>Entry-level patient care, professionalism and critical thinking skills utilized in the daily responsibilities of an imaging professional are presented in preparation for student clinical rotations. Best practice verbal and nonverbal communication skills within the health care setting are introduced. Students will learn about appropriate communication for health care providers in culturally sensitive and age-specific situations. Electronic communication basics as well as a brief review of fundamental writing skills will also be covered.</p> <p>DMS 106 - Medical Law and Ethics 1</p> <p>Medical law and ethics material presented as specific to the imaging professional, including but not limited to patient rights and confidentiality, medical coding and reimbursement and the sonographer's scope of practice.</p> <p>DMS 110 - Scanning Techniques Lab I 3</p> <p>Instructional lab consisting of instructor-guided hands-on scanning sessions in the Diagnostic Medical Sonography lab. Practical basic preparation for student's first clinical education experience. (3 lab)</p> <p>DMS 112 - Scanning Techniques Lab II 2</p> <p>Prerequisite: DMS 110. A progressive continuation of DMS 110. Instructional lab consisting of instructor-guided hands-on scanning sessions. Practical intermediate preparation for the Diagnostic Medical Sonography student's continued clinical education experience. (2 lab)</p> <p>DMS 120 - Sonography Principles and Instrumentation I 3</p> <p>Comprehensive instruction on acoustic physics, Doppler ultrasound principles, hemodynamics, and ultrasound instrumentation. Bioeffects, safety and the interactions between ultrasound and tissues will be presented. Quality assurance, quality improvement and sonography department protocols will also be covered.</p> <p>DMS 122 - Sonography Principles and Instrumentation II 3</p> <p>Prerequisite: DMS 120. Continuation of DMS 120. Comprehensive instruction on acoustic physics, Doppler ultrasound principles, hemodynamics, and ultrasound instrumentation. Bioeffects, safety and the interactions between ultrasound and tissues will be presented. Quality assurance, quality improvement and sonography department protocols will also be covered.</p> <p>DMS 128 - Sonography Principles and Instrumentation Review 1.5</p> <p>Review of the sonographic principles and</p>	<p>instrumentation curricula presented in DMS 120 and DMS 122 in preparation for the Sonography Principles and Instrumentation National Registry Board Exam.</p> <p>DMS 130 - General Sonography I 2</p> <p>Course includes a brief review of the anatomy, physiology and sectional anatomy of the human abdomen, superficial structures and noncardiac chest. Pathology and pathophysiology specific to the general concentration will be presented. Recognition of the normal and abnormal sonographic appearances of the human thoracic, abdominal and superficial anatomy will be taught. Best practice examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed.</p> <p>DMS 132 - General Sonography II 2</p> <p>Prerequisite: DMS 130. Continuation of DMS 130. Course includes a brief review of the anatomy, physiology and sectional anatomy of the human abdomen, superficial structures and noncardiac chest. Pathology and pathophysiology specific to the general concentration will be presented. Recognition of the normal and abnormal sonographic appearances of the human thoracic, abdominal and superficial anatomy will be taught. Best practice examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed.</p> <p>DMS 134 - General Sonography III 2</p> <p>Prerequisite: DMS 132. Continuation of DMS 132. Course includes a brief review of the anatomy, physiology and sectional anatomy of the human abdomen, superficial structures and noncardiac chest. Pathology and pathophysiology specific to the general concentration will be presented. Recognition of the normal and abnormal sonographic appearances of the human thoracic, abdominal and superficial anatomy will be taught. Best practice examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed.</p> <p>DMS 140 - OB/GYN Sonography I 2</p> <p>Course includes a brief review of the anatomy, physiology and sectional anatomy of the human gravid and nongravid pelvis. Pathology and pathophysiology specific to the obstetrics and gynecology concentration will be presented. Recognition of the normal and abnormal sonographic appearances of the female human gravid and nongravid pelvis will be taught. Best practice examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed. Human embryology as appropriate will be presented.</p>
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SECTION 3 / COURSE DESCRIPTIONS

- DMS 142 - OB/GYN Sonography II** 2
Prerequisite: DMS 140. Continuation of DMS 140. Course includes a brief review of the anatomy, physiology and sectional anatomy of the human gravid and nongravid pelvis. Pathology and pathophysiology specific to the obstetrics and gynecology concentration will be presented. Recognition of the normal and abnormal sonographic appearances of the female human gravid and nongravid pelvis will be taught. Best practice examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed. Human embryology as appropriate will be presented.
- DMS 144 - OB/GYN Sonography III** 2
Prerequisite: DMS 142. Continuation of DMS 142. Course includes a brief review of the anatomy, physiology and sectional anatomy of the human gravid and nongravid pelvis. Pathology and pathophysiology specific to the obstetrics and gynecology concentration will be presented. Recognition of the normal and abnormal sonographic appearances of the female human gravid and nongravid pelvis will be taught. Best practice examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed. Human embryology as appropriate will be presented.
- DMS 150 - Vascular Sonography I** 2
Course includes a brief review of the anatomy, physiology and sectional anatomy of the human venous and arterial systems. Pathology and pathophysiology specific to the vascular concentration will be presented. Recognition of the normal and abnormal sonographic appearances of human vascular anatomy will be taught. Best practice direct and indirect examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed.
- DMS 152 - Vascular Sonography II** 2
Prerequisite: DMS 150. Continuation of DMS 150. Course includes a brief review of the anatomy, physiology and sectional anatomy of the human venous and arterial systems. Pathology and pathophysiology specific to the vascular concentration will be presented. Recognition of the normal and abnormal sonographic appearances of human vascular anatomy will be taught. Best practice direct and indirect examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed.
- DMS 154 - Vascular Sonography III** 2
Prerequisite: DMS 152. Continuation of DMS 152. Course includes a brief review of the anatomy, physiology and sectional anatomy of the human venous and arterial systems. Pathology and pathophysiology specific to the vascular concentration will be presented. Recognition of the normal and abnormal sonographic appearances of human vascular anatomy will be taught. Best practice direct and indirect examination methods utilizing ultrasound technology are presented. Basic exam protocols will be discussed.
- DMS 160 - Ultrasound Clinical Education I** 3.5
Beginning internship of the Diagnostic Medical Sonography profession. Students will actively participate in the daily activities and patient examinations of an ultrasound department under the direct supervision of a registered sonographer. Clinical education settings can include, but are not limited to hospital imaging departments, doctor's offices, medical clinics, imaging centers, and mobile sonography practices.
- DMS 162 - Ultrasound Clinical Education II** 7
Beginning internship of the Diagnostic Medical Sonography profession. Students will actively participate in the daily activities and patient examinations of an ultrasound department under the direct supervision of a registered sonographer. Clinical education settings can include, but are not limited to hospital imaging departments, doctor's offices, medical clinics, imaging centers, and mobile sonography practices.
- DMS 164 - Ultrasound Clinical Education III** 4.5
Intermediate internship of the Diagnostic Medical Sonography profession. Students will actively participate in the daily activities and patient examinations of an ultrasound department under the direct supervision of a registered sonographer. Clinical education settings can include, but are not limited to hospital imaging departments, doctor's offices, medical clinics, imaging centers, and mobile sonography practices.
- DMS 166 - Ultrasound Clinical Education IV** 7
Intermediate internship of the Diagnostic Medical Sonography profession. Students will actively participate in the daily activities and patient examinations of an ultrasound department under the direct supervision of a registered sonographer. Clinical education settings can include, but are not limited to hospital imaging departments, doctor's offices, medical clinics, imaging centers, and mobile sonography practices.

SECTION 3 / COURSE DESCRIPTIONS

DMS 168 - Ultrasound Clinical Education V 7

Advanced internship of the Diagnostic Medical Sonography profession. Students will actively participate in the daily activities and patient examinations of an ultrasound department under the direct supervision of a registered sonographer. Clinical education settings can include, but are not limited to hospital imaging departments, doctor's offices, medical clinics, imaging centers, and mobile sonography practices.

DMS 170 - Cardiac Sonography I 4

Prerequisite: Must be credentialed with ARDMS in one specialty area and be able to provide the clinical verification form provided on the ARDMS website or have a single two-year allied health education program that is patient-care related. Allied health occupations include, but are not limited to, diagnostic medical sonographer, radiologic technologist, respiratory therapist, occupational therapist, and physical therapist. Course includes cardiovascular assessment techniques, physics, knobology, ultrasound review, and an introduction to the theoretical principles of basic M mode and two-dimensional echocardiography.

DMS 172 - Cardiac Sonography II 4

Prerequisite: DMS 170 with a grade of B or higher. Continuation of DMS 170 emphasizing the theoretical principles of echocardiography necessary to measure and interpret aortic and mitral valve pathology.

DMS 174 - Cardiac Sonography III 4

Prerequisite: DMS 172 with a grade of B or higher. Course is a continuation of DMS 172. It includes interpretations of echocardiography and patterns for normal and pathological states of the left ventricle, pulmonic and tricuspid valves, as well as interventional echocardiography. Additional topics include Doppler and color flow technology, new trends, diastology, and contrast agents.

DMS 180 - DMS Registry Review 2

Concentrated review of material presented in DMS 130, DMS 132, DMS 134, DMS 140, DMS 142, DMS 144, DMS 150, DMS 152, and DMS 154 in preparation for the National Registry Board Exams.

Earth Science

EASC 101 - Introduction to Earth Sciences with Lab 5

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to earth science that concentrates on understanding the earth's

dynamic environments through the scientific study of processes and physical and human interactions related to geology, meteorology and astronomy. Lab topics include introduction to minerals and rocks, geologic time, fundamental principles of weather, and basic astronomy. (4 lecture, 1 lab)

EASC 106 - Physical Geology with Lab 5

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Provides an understanding of the forces which were active in the formation of the earth, the processes whereby the surface of the earth is sculptured, the identity of earth materials, and the location and value of the earth's resources. Topics include history of geology, plate tectonics, matter and minerals, rocks, volcanoes, weathering and soil, geologic time, earthquakes, plate boundaries, water, energy, mass wasting, glaciers, deserts, and global climate change. Labs include identification of rocks and minerals, plate tectonics, and geologic time. (4 lecture, 1 lab)

EASC 116 - Environmental Science 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduces environmental concepts and problems. Topics will include basic ecology, human population ecology, natural resources, and pollution. Students will learn how man interacts with his environment.

EASC 120 - Introduction to Astronomy 3

Prerequisites: ENGL 070 and MATH 064 with grades of C or higher or equivalent placement scores. Introduction to our present knowledge of the universe. Topics include the solar system, stellar astronomy and the structure of the universe.

EASC 180 - Problems in Earth Science 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in earth science under the supervision of a science instructor.

Early Childhood Education

ECD 101 - Introduction to Early Childhood 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. Course is an overview of early childhood programs and curricula, historical and present, and an examination of qualities and skills necessary for working with young children. Observation of young children in various classroom settings will be incorporated into the course.

SECTION 3 / COURSE DESCRIPTIONS

ECD 103 - Child Growth and Development 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ENGL 070 with a grade of C or higher or equivalent placement scores. Provides a general understanding of the physical, social, emotional, language, and cognitive development of early childhood, and the importance of the environment and interrelationships on development.

ECD 107 - Child Nutrition, Health and Safety 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Presents basic factors that affect child health including basic nutrition, clothing habits, health routines, hygiene, childhood diseases, first aid, and safety. Curriculum includes care facilities factors such as a safe, challenging learning environment and licensing requirements.

ECD 109 - Observation and Planning Assessment 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ENGL 070 with a grade of C or higher or equivalent placement scores. Course provides the student with opportunity to understand methods of observing children from birth to age 8, how to plan after observation, and make enhancements to curriculum based on assessment.

ECD 111 - Language Development Early Literacy 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. Presents the basic use of tools and materials that stimulate imagination, reasoning and concept formation in language developments. Students are given an overview of literacy experiences for young children throughout the day, the continuum of reading and writing development from birth and beyond, and specific ways to incorporate literacy into playing, reading, talking, writing, and learning.

ECD 115 - Child Social/Emotional Development 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Course is an overview of childhood behavior, interaction and relationships, environments and its effects on social and emotional development. Behavior and guidance concerns of children and problems facing adolescents and adults are addressed.

ECD 117 - Creative Expression and Play 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. Presents the development of creative expressions in the young child through activities such as music, art and dance, and their incorporation into the daily curriculum. The value of children's play and discovery as learning opportunities will be emphasized.

ECD 121 - Curriculum Strategies for Early Childhood 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ECD 101, ECD 107, ECD 109 with grades of C or higher and ENGL 070 with a grade of C or higher or equivalent placement scores. Course is an examination of techniques, learning activities and materials used to teach young children with an emphasis on planning and implementing a developmentally appropriate curriculum utilizing the Constructivist Theory.

ECD 125 - Introduction to Special Individuals 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. Presents an introduction to characteristics of exceptional individuals and educational history and theories with exceptional individuals, especially children. Study will include effects of disability on adjustment to home, school, community, and on families of young children. Includes an overview of federal and state systems of support for children with special needs.

ECD 127 - Parent/Teacher Interaction 3

Course presents the principles of child development with family relationships applied to group and individual work with parents. It is intended to help providers in developing skills that will help them effectively relate to parents. Topics will include communication techniques, children's fears, discipline, nutrition, and school and community resources.

ECD 129 - Administration in Early Childhood Care 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ECD 101 through ECD 127 with grades of C or higher. Course presents the operation of a child care facility including staff relations, budgeting, ordering, planning, and evaluating center operations. Early childhood care center ethics, funding opportunities, licensing, curriculum, and parent involvement will also be incorporated into this course.

SECTION 3 / COURSE DESCRIPTIONS

ECD 131 - Child Development Portfolio/Assessment Preparation 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ECD 101 and ECD 107 with grades of C or higher and consent of instructor. Course provides a step-by-step approach of the activities necessary to complete the degree requirements. Course is a review of the functional areas along with an emphasis on the general understanding of the physical, social, emotional, language, and cognitive development of early childhood. The competencies required and the assessment processes are considered important components of this course.

ECD 175 - Child Care Practicum 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ECD 101 through ECD 127 with grades of C or higher and consent of program coordinator. This capstone course puts early childhood skills and knowledge into practice in an early childhood setting.

Economics

ECON 101 - Principles of Macroeconomics 3

Prerequisites: ENGL 070 and MATH 064 with grades of C or higher or equivalent placement scores. Examines the economy as a whole, with an emphasis on how scarcity affects a nation. Topics include understanding and measuring economic growth, inflation, unemployment, monetary and fiscal policy, and exchange rates.

ECON 102 - Principles of Microeconomics 3

Prerequisites: ENGL 070 and MATH 064 with grades of C or higher or equivalent placement scores. Examines the price system and resource allocation, markets and efficiency, production costs, wage determination, and the role of government in regulating and supplementing the pricing system. Special problems such as agriculture and health care may be introduced, time permitting.

ECON 180 - Problems in Economics 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in economics under the supervision of an economics instructor.

Education

EDUC 108 - Introduction to the Field of Education .5

Course is a prerequisite requirement to all potential students seeking an AAT degree, AAS in Early

Childhood Development or the AAS in Paraprofessional Educator. Topics will include professionalism in the field, mandatory background screenings, health requirements, membership in professional organizations, observations and participation in classroom experiences, exit exams, and employment opportunities. The Department of Elementary and Secondary Education standards will be introduced along with state certification and transfer degree options. This is a pass/fail course.

EDUC 110 - Introduction to Physical Education in the Elementary School 2

Prerequisites: EDUC 108 and the successful completion of an approved background screening. Recommended for sophomore physical education majors and elementary education majors. Study of special methods and materials used in teaching elementary school physical education. Topics include course organization and teaching procedures and opportunities for integrating the physical education program with the school curriculum. Course will fulfill the wellness requirement.

EDUC 147 - Introduction to Teaching Online 2

Prerequisite: Consent of instructor. Introductory course designed to assist faculty in developing courses that are either Web-based or Web-assisted. Provides instruction for basic course planning and focuses on topics such as methods, strategies, techniques, trends, and terminology used in instruction in general and online education in particular. Articles will be assigned for reading and discussion, and preliminary documents for teaching online courses will be created. Course is restricted to SFCC faculty.

EDUC 149 - Teaching with LMS Software 2

Prerequisite: Consent of instructor. Introductory course is designed to assist faculty in learning how to use the Blackboard Learning Management System for facilitating Web-based and Web-assisted courses. Topics will include using the various components of the software as well as uploading and editing documents, getting technical assistance and managing information. In addition, issues pertinent to online education will be discussed. Course is restricted to SFCC faculty.

EDUC 180 - Problems in Teacher Education 1 to 3

Prerequisite: Consent of program coordinator. Independent study of a special problem in teacher education under the supervision of the program coordinator.

SECTION 3 / COURSE DESCRIPTIONS

EDUC 200 - Introduction to Teaching 3

Course provides orientation to teacher education. Topics include historical, philosophical, sociological, political, economic, and legal foundations of the American public education system. A field-based component allows students to work in a classroom with an experienced teacher.

EDUC 205 - Teaching Profession with Field Experience 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ENGL 101 with a grade of C or higher. Course provides an opportunity to observe teaching and learning for 30 hours or more in pre K-12 classrooms. Students are introduced to the requirements for teacher preparation and certification. Students will examine characteristics of effective teaching. Course is designed to assist students in determining if a career in teaching is an appropriate goal.

EDUC 209 - Foundations of Education 3

Prerequisite: ENGL 101 with a grade of C or higher. Course examines the historical, philosophical, sociological, political, economic, and legal foundations of the American public education system. Students will explore the nature of school environments, design and organization of school curricula and characteristics of effective schools and instruction in grades pre K-12. Educational structures, practices and projections for the future will be studied.

EDUC 212 - Technology for Teachers 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Students will learn to integrate instructional technology into the pre K-12 classrooms. Students will study a variety of software programs, presentation technology and telecommunication tools. Focus will also be on social, ethical, legal, and human issues surrounding the use of technology.

EDUC 218 - Children's Literature 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ENGL 070 with a grade of C or higher or equivalent placement scores. Intensive introduction to various genres of literature for children and ways of presenting literature in preschool, elementary school or middle school.

EDUC 220 - Educational Psychology 3

Prerequisite: PSY 101 or PSY 102 with a grade of C or higher. Course is designed to help students relate the application of psychological principles to teaching,

learning and assessment and the educational practice in pre K-12 classrooms. It will focus on the learner and the learning process, teacher characteristics and classroom processes that increase student motivation. Student diversity and appropriate instructional strategies for students with special needs will also be introduced.

EDUC 228 - Education of Exceptional Learners pre K-12 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ENGL 070 with a grade of C or higher or equivalent placement scores. Survey course is an introduction to the exceptional learners and their education in grades pre K-12. Students will attain knowledge, skills and dispositions that will enable them to work effectively with exceptional learners in general education or special education. Course will cover the adaptations of daily activities in inclusive classrooms.

EDUC 230 - Music in the Elementary School 2

Course includes basic music reading and singing skills, teaching techniques (general and music specific), understanding music curriculum content, and materials and methods for teaching music.

EDUC 250 - Paraprofessional Educator Practicum 3

Prerequisites: EDUC 108 and the successful completion of an approved background screening. ENGL 101 with a grade of C or higher and consent of program coordinator. Students will actively participate, under supervision, in a paraprofessional setting for a total of 60 hours. Students will be responsible for implementing duties assigned by the internship supervisor.

English

ENGL 002 - Introduction to Reading Skills 3

Prerequisite: Equivalent placement score. This computer-aided course is designed for students needing reading skills necessary for placement into ENGL 060. Successful completion requires a 70 percent or higher in the course. A grade of C or higher is required to move into ENGL 060. Does not apply toward a degree or certificate.

ENGL 003 - Introduction to Sentence Skills 3

Prerequisite: Equivalent placement score. This computer-aided course is designed for students needing sentence skills necessary for placement into ENGL 060. Successful completion requires a 70 percent on the comprehensive department final and a 70 percent in the course. A grade of C or higher is required to move into ENGL 060. Does not apply toward a degree or certificate.

SECTION 3 / COURSE DESCRIPTIONS

ENGL 005 - Intensive English for Non-Native Speakers 3	ENGL 106 - Creative Writing 3
Course is for students whose primary language is not English. Course will cover basic English grammar and usage for academic purposes, as well as speaking, listening, reading, and writing skills necessary for academic success. Does not apply toward a degree or certificate.	Study and practice in the techniques of writing poetry, fiction, nonfiction, and/or drama. Emphasis is placed on the recognition of those techniques in published works and their utilization in original work. Peer evaluation and individual conferences with the instructor are employed.
ENGL 060 - Foundations of English I 3	ENGL 110 - Business Communications 3
Prerequisites: ENGL 002 and ENGL 003 with grades of C or higher or equivalent placement scores. Course is designed to develop students' critical reading and writing skills. Students will learn how to independently read and understand academic texts and respond to the ideas presented in those texts through well-written paragraphs. Successful completion requires a 70 percent on the comprehensive department final and a 70 percent in the course. Does not apply toward a degree or certificate.	Prerequisites: CAPP 125 and ENGL 070 with a grade of C or higher or equivalent placement scores. In-depth study of effective communication techniques and demeanor as applied in business situations. Topics may include the communication process, various business letters, oral presentations, and international communication.
ENGL 070 - Foundations of English II 3	ENGL 112 - Technical Writing 3
Prerequisite: ENGL 060 with a grade of C or higher or equivalent placement scores. Course focuses on applying critical reading and writing skills for organizing, analyzing and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. Students will learn how to independently read and understand academic texts and critically respond to the ideas presented in those texts via well-organized essays. Successful completion requires a 70 percent on the comprehensive department final and a 70 percent in the course. Does not apply toward a degree or certificate.	Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Explores the theory and practice of workplace writing, emphasizing both practical and individual and collaborative decision-making. Includes practice in writing instructions, proposals and reports.
ENGL 101 - English Composition I 3	ENGL 180 - Problems in Writing 1 to 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Emphasizes planning, drafting and revising along with critical thinking and information management skills and their role in communicating concise written ideas to a range of audiences for a variety of purposes. Basic computer skills are essential for successful completion.	Prerequisites: ENGL 101 with a grade of C or higher and consent of instructor. Independent study of a special problem in the area of research-based writing or creative writing under the supervision of an instructor in the department.
ENGL 102 - English Composition II 3	French
Prerequisite: ENGL 101 with a grade of C or higher. Combines the process writing techniques acquired in ENGL 101 with higher-order reasoning and advanced research skills to communicate ideas in meaningful and effective writing. Basic computer skills are essential for successful completion.	FREN 101 - Elementary French I 3
	Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Begins the four basic skills of language communication: listening, speaking, reading, and writing. Includes an introduction to the French culture.
	FREN 102 - Elementary French II 3
	Prerequisite: FREN 101 with a grade of C or higher. Continuation of FREN 101 for further development of the four basic skills of language communication: listening, speaking, reading, and writing. Continues study of French culture.
	FREN 201 - Intermediate French I 3
	Prerequisite: FREN 102 with a grade of C or higher. Course continues the study of French language and culture with a focus on communication and proficiency.

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FREN 202 - Intermediate French II 3
Prerequisite: FREN 201 with a grade of C or higher. Course continues the study of French language and culture with a focus on communication and proficiency.

FREN 210 - Special Topics in French 1 to 3
Prerequisites: FREN 101, FREN 102, FREN 201, and FREN 202 with grades of C or higher. Independent study under the supervision of a French instructor.

Geography

GEOG 101 - World Geography 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Survey of the major topical elements of geography with additional emphasis on environmental awareness and place-name geography. Designed for prospective elementary and social studies teachers, as well as general education students.

Health Occupations

HEOC 120 - Medical Terminology I 3
Acquire a medical terminology vocabulary related to body systems necessary to communicate information in a medical office or hospital environment. Focuses on the principles of medical word formation, including the basic rules of building medical words, identifying suffixes, prefixes, and combining forms related to the structure and function of the associated systems of the body (gastrointestinal, respiratory, cardiovascular, skeletal, muscular, urinary) and radiology and nuclear medicine. Concentration is on pronunciation, spelling and definitions of medical terms.

HEOC 122 - Medical Terminology II 3
Prerequisite: HEOC 120. Continuation of HEOC 120. Focuses on identifying suffixes, prefixes and combining forms related to the structure and function of the associated systems of the body (integumentary, hematology, immune, endocrine, nervous, male reproductive, female reproductive, oncology).

HEOC 128 - Clinical Practicum 1
Prerequisites: Consent of program coordinator. Provides an opportunity for students to experience hands-on training in a medical office setting. Students report to an instructor who evaluates their performance and are responsible for finding and making arrangements with a clinical site to complete the required 40 hours of on-the-job training.

HEOC 135 - Allied Health Career Development .5
Focuses on developing allied health care career potential. The job search process is presented step-by-step. Guest speakers, group activities and mock interviews will be utilized and resumes will be constructed. Internet sites to assist in resume writing and job searches will be explored.

HEOC 140 - Technology and Health Care 3
Provides an introduction to information technology including hardware, software, telecommunications, medical informatics, administrative applications, and telemedicine in different care delivery areas. Addresses computer assisted instruction, online health information, and security and privacy issues. Examines using technology to improve the quality of health care as it is delivered to the client, utilized by the provider, and needed to meet the mission of an institution.

HEOC 146 - Phlebotomy 6
Course is designed to provide students with knowledge, skills and techniques necessary to perform as a phlebotomist in the clinical setting. Students will learn various procedures and laboratory techniques in handling human blood. Students must satisfactorily perform in a laboratory setting as well as pass written tests.

HEOC 152 - Certified Nurse Assistant 6
Corequisite: HEOC 155. Certified Nurse Assistant training prepares individuals for employment in a long-term care facility, teaching skills in resident care under the direct supervision of a licensed nurse. CNA and CNA Clinical will meet state requirements for CNA training. Additional state mandated requirements may be required to be employed as a CNA in a long-term care facility. Note: If a student passes HEOC 152, but does not pass HEOC 155, the student will have one additional semester to retake HEOC 155 from a regularly scheduled State Fair Community College course. Any retake of HEOC 155 after one semester will require that HEOC 152 be retaken.

HEOC 155 - Certified Nurse Assistant Clinical 2
Corequisite: HEOC 152. Training provides 100 hours of on-the-job training with state-approved clinical supervisors in a long-term care facility. At the conclusion of the clinical sessions, a two-part, state-approved final examination must be passed. The two-part final examination includes a written or oral assessment and a practicum examination. This is a pass/fail course.

SECTION 3 / COURSE DESCRIPTIONS

HEOC 158 - Certified Medication Technician 4

Prerequisite: Active Listing on the Missouri CNA Registry. Corequisite: HEOC 160. This Certified Medication Technician training program prepares individuals for employment in a long-term care facility. Skills are taught in administration of nonparenteral medications to assist LPNs or RNs in medication therapy. Training consists of at least 60 hours of classroom instruction. Upon successful completion of both this course and HEOC 160, the student will be eligible to take the final exam to become a Certified Medication Technician through the Missouri Department of Health and Senior Services.

HEOC 160 - Certified Medication Technician Clinical 1

Corequisite: HEOC 158. Training includes at least 15 hours of clinical practice under direct supervision. The student will participate in administering nonparenteral medications in a long-term care facility. This is a pass/fail course.

HEOC 162 - Home Health Aide 2

The Home Health Aide training program provides the student with basic care skills for families with unique health needs in the patient's home. The student will learn the goals of maintaining basic human needs, home management, nutrition, meal planning, adapting basic care activities, observing client's medication and special needs, as well as special procedures in emergency care.

HEOC 164 - Restorative Nurse Assistant 2

Corequisite: HEOC 166. The Restorative Nurse Assistant training program is designed to train aides to fulfill requirements for efficient rehabilitative care of residents in nursing homes. The student will have the opportunity to learn the rehabilitative philosophy, work with departmental organizations and understand the role of the physical therapist and the proper techniques of body mechanics, transfers and ambulation.

HEOC 166 - Restorative Nurse Assistant Clinical 1

Corequisite: HEOC 164. The training includes clinical practice under direct supervision. The student will participate in working with the physical therapist in a long-term care facility. This is a pass/fail course.

HEOC 168 - Social Services Director/Activity Director 5

The Social Services Director/Activity Director training program provides an introduction to the long-term care setting and the various methods of providing recreation

and social services in this setting. It includes information that provides understanding of the regulatory process and the Quality Assurance System in this setting. It will include study of human aging, an overview of social work practice, an introduction to recreation service provisions, and federal and state regulations. At the end of the training, the successful student will be qualified to hold a position as an Activity Director or Social Services Director in a long-term care facility.

HEOC 170 - Level I Medication Aide 1

The Level I Medication Aide training program prepares individuals for employment as a Level I Medication Aide in residential care facilities and assisted living facilities. The program is designed to teach skills in medication administration of nonparenteral medications in order to qualify students to perform this procedure only in residential care facilities and assisted living facilities in Missouri. The curriculum content is a minimum of 16 hours that includes procedure and instructions in the following areas: basic human needs and relationships; drug classifications and their implications; assessing drug reactions; techniques of drug administration; medication storage and control; drug reference resources; and infection control.

HEOC 172 - Insulin Administration .5

Prerequisite: Current Missouri CMT or LIMA Certificate. The Insulin Administration training program prepares medication technicians in a skilled or intermediate care facility or medication aides in a residential care facility or assisted living facility to administer insulin. The program is designed to present information on diabetes as it relates to symptoms and implications of proper or improper treatment and to teach skills in insulin administration in order to qualify students to perform this procedure in long-term care facilities in Missouri. The curriculum content includes procedures and instruction in the following areas: diabetes and its treatment and complications; types of insulin; techniques of insulin administration; and methods of monitoring blood sugar levels.

HEOC 180 - Problems in Health Occupations 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in allied health under the supervision of an allied health instructor.

SECTION 3 / COURSE DESCRIPTIONS

History

HIST 101 - US History Before 1877 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Survey of the political, economic and social development of the United States from its European origins through the Reconstruction Process. A study of the Missouri Constitution is included to meet the state's requirements in Senate Bill No. 4.

HIST 102 - US History Since 1877 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Survey of the political, economic, social, and military development of the United States from 1877 to the present. A study of the Missouri Constitution is included to meet the state's requirements in Senate Bill No. 4.

HIST 108 - World Civilization Before 1500 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Survey of the political, social, military, cultural, and religious history of Europe, Asia and Africa from early human societies to 1500.

HIST 109 - World Civilization After 1500 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Survey of the political, social, military, cultural, economic, and ideological history of Europe, Asia, the Americas, and Africa from 1500 to the end of the Cold War.

HIST 180 - Problems in History 1 to 3

Prerequisites: ENGL 070 with a grade of C or higher or equivalent placement scores and consent of instructor. Independent study of a special problem in history under the supervision of the lead history instructor.

Health Information Technology

HIT 100 - Introduction to Health Information Technology 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the health care field and health information management. Addresses organizational structures, regulatory agencies and health care reform. The health record is analyzed for content as it relates to quantity, quality, health care personnel responsibility, and documentation requirements.

HIT 105 - Health Care Technologies 3

Prerequisite: CAPP 125 with a grade of C or higher. Covers the health record and information systems, indexes, registries, and computer-based patient record.

HIT 110 - Pharmacology and Diagnostic Procedures 3

Prerequisite: HEOC 120 with a grade of C or higher. A basic knowledge and understanding of clinical and diagnostic laboratory tests as performed in the acute care setting and the basics of pharmacology. Students will identify the classifications, uses and actions of the most commonly prescribed drugs for affecting each body system.

HIT 115 - Health Care and the Law 3

Prerequisite: HIT 100 with a grade of C or higher. Course covers medical records as legal documents focusing on procedures involved in court disclosure of medical records, laws pertaining to release of information from medical records, and medical record requirements for accrediting, approving, licensing, and certifying agencies. Covers laws and regulations governing preparation and use of medical records, responsibilities of physicians, risks of malpractice, and physician's role in the hospital.

HIT 200 - Health Care Statistics and Quality Management 3

Prerequisites: CAPP 125 and MATH 112 with grades of C or higher. Covers the practical applications of health information management concepts as they apply to health record systems and the health care industry. In addition, this course covers the analysis of data collection and retrieval and the computation of hospital statistical data.

HIT 205 - Diagnosis Coding I 3

Prerequisites: BIO 207, CAPP 125, HEOC 120, and HIT 100 with grades of C or higher. Study of classification systems with major emphasis on diagnosis coding using ICD-9-CM or ICD-10-CM and reimbursement methodologies, specifically DRGs.

HIT 207 - Diagnosis Coding II 3

Prerequisite: HIT 205 with a grade of C or higher. Continuing study of classification systems with major emphasis on inpatient procedure coding using ICD-10-PCS and reimbursement methodologies, specifically DRGs. Intense simulation of actual coding practices on all major body systems.

HIT 210 - Procedural Coding 3

Prerequisites: BIO 208, HIT 205, and HIT 207 with grades of C or higher. Outpatient coding guidelines and reimbursement with major emphasis on CPT coding.

SECTION 3 / COURSE DESCRIPTIONS

HIT 215 - Principles of Health Care Reimbursement 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Course provides an understanding of the various payment systems and how reimbursement affects providers, payers, consumers, and policy makers. Explanation will be given of the managed care, commercial insurance, and government-sponsored payment systems. The student will compare and contrast systems and how to use related resources for accurate reimbursement.

HIT 275 - Professional Practice Experience 3

Prerequisite: Consent of program coordinator. Field-based professional practice experience in a hospital, physician's office, clinic or other health care setting with directed projects common to a clinical coding specialist on the job. Students will be assigned specific professional practice projects to be completed at the site and will participate in management and administrative activities. This is an unpaid work experience requiring 80-125 hours of participation.

Health

HLTH 101 - Personal Health and Fitness 2

Presents a basic knowledge of physical fitness and personal fitness; the human body, personal hygiene, food and nutrition, diet and weight control, and mental health; alcohol, narcotics and drug abuse education; and protection against communicable diseases and other health hazards. Course will fulfill the wellness requirement.

HLTH 102 - First Aid 2

Prepares the student to make appropriate decisions regarding first aid care in minor or life-threatening situations. Course focuses on basic first aid techniques and when to call EMS. CPR and relief of airway obstruction of the adult, child and infant, as well as use of the AED for the adult and child are included in the course. American Red Cross certification cards are given for First Aid and CPR upon completion of the course.

Industrial Electrical Maintenance

IEM 102 - Electric Fundamentals 3

Introduction to electrical theory. Topics include direct current, alternating current, electrical quantities and values, Ohm's Law, electric generation, energy conversion, magnetism, electromagnetism, series, parallel, and combination circuits.

IEM 104 - Electrical Power 3

Prerequisite: IEM 102 with a grade of C or higher. Continuation of electrical studies in AC, inductance, capacitance, reactance, power factor, and the application of electrical power in industry, single and poly-phase transformers, and WYE, and DELTA systems.

IEM 106 - Industrial Mechanics 3

Course includes principles and applications of industrial mechanics including tools, hardware, installation and maintenance of bearings, gear systems, belt drives, mechanical drives, principles of lubrication, vibration, and alignment.

IEM 108 - Fluid Power Technology 3

Course covers principles and applications of fluid power technology in industrial systems including operating, troubleshooting and maintaining hydraulic and pneumatic pressure; flow, directional control, and electrical devices; conduits, pumps, compressors, actuators, and ancillary devices; and conditioning and filtration of fluids. Critical thinking and analytical skills are emphasized.

IEM 110 - Digital Principles and Applications 3

Prerequisite: IEM 102 with grade of C or higher. Study of decimal, binary and hexadecimal numbering systems, Boolean algebra, basic logic, and truth tables, digital/discrete logic circuits, FLIP-FLOPS, TIMERS, COUNTERS, and REGISTERS.

IEM 112 - Control Circuit Troubleshooting 3

Prerequisite: IEM 104 with a grade of C or higher. Introduction to the devices and components of industrial automation, sensors, switches, fluid power components, and combination of technologies in the systems of manufacturing and industrial processes. Primary emphasis on interpreting line diagrams and troubleshooting control circuits.

IEM 114 - Motor Controls 3

Prerequisite: IEM 112 with a grade of C or higher. Course is designed to teach students how to construct, troubleshoot and isolate malfunctions in various types of control circuits and motor starters; and understand application and installation of control devices and basic principles, operation, components, and application of AC drives.

SECTION 3 / COURSE DESCRIPTIONS

- IEM 116 - Solid State Devices** 3
Prerequisite: IEM 104 with a grade of C or higher.
Comprehensive overview of solid state devices and their basic principles and applications; the composition and operating characteristics of diodes, transistors, SCRs, DIACs, TRIACs, and solid state transducers; and the application of solid state devices in rectification of AC into DC, power supply filters, voltage regulation, industrial relays, sensors, and alarm systems.
- IEM 118 - Analog/Digital** 3
Prerequisite: IEM 116. Covers the basic principles involving the use of analog integrated operational amplifiers in signal generation applications; integrated A/D, D/A converters and their applications; shift registers and their applications; and control and timing circuits and their applications.
- IEM 122 - Introduction to PLCs** 3
Prerequisite: IEM 114 with a grade of C or higher.
Introduction to hardware and software of Programmable Logic Controllers. Course is designed to instruct students in the operating system of PLCs, configuration of hardware and communications, number systems, logic circuits, and basic programming. The ability to perform basic computer operations is necessary.
- IEM 124 - Intermediate PLCs** 3
Prerequisite: IEM 122 with a grade of C or higher.
Study of the interface between machine and controller, advanced programming functions and troubleshooting. Emphasis is on developing programs and interfacing with industrial type devices.
- IEM 126 - Industrial Safety** 3
Comprehensive study of requirements and programs of 29 CFR 1910. Application of safe work practices to industrial maintenance and manufacturing including machine guarding, confined space, lockout/tagout, HAZCOM, electrical and fire safety, PPE, and more. Additional topics selected based on student interest and industry emphasis.
- IEM 128 - Maintenance Management** 3
Study of contemporary maintenance management practices, statistical applications, Total Productive Maintenance, reliability-based procedures, predictive (PDM) and preventive (PM) maintenance, CMM systems, nondestructive testing, and project management.
- IEM 130 - Principles of Refrigeration** 3
Study of the principles of refrigeration, refrigerants, components, types of systems, operation, electrical controls, troubleshooting, servicing, and maintenance. Critical thinking and analytical skills are emphasized.
- IEM 132 - Advanced PLCs** 3
Prerequisite: IEM 124 with a grade of C or higher. Study of the hardware that is programmed with RSLogix 5000. Course is designed for students who already understand RSLogix 500 and are ready to advance to 'Tag' based programming.
- IEM 134 - PLC Networks** 3
Prerequisite: IEM 132 with a grade of C or higher.
Course will cover the installation, operation, inspection, and maintenance of industrial communication networks using serial RS232, Ethernet and databus. Examines various interface devices used in communication and integration of these devices with computers, PLCs and Web-enabled technology.
- IEM 136 - General NEC Requirements** 3
Prerequisite: IEM 104 with a grade of C or higher.
Students learn to understand and apply the code to general industrial applications, wiring and protection, wiring methods and materials, and general equipment. Based on the general requirements of the National Electrical Code (NEC).
- IEM 138 - Power Distribution and Switchgear** 3
Prerequisite: IEM 136. Course will cover the installation, operation, inspection and maintenance of industrial electrical power systems and motor control centers; voltage, current and instrument transformers; feeder circuits and busways; switches and circuit breakers; protective devices; regulating devices; and neutral and grounding systems using the National Electric Code (NEC) as a reference.
- IEM 140 - Transformers and Motors** 3
Prerequisite: IEM 104 with a grade of C or higher.
Course examines the principles, construction, types, and applications of transformers and motors, including DC generators and motors, alternators and AC motors. Transformers and AC motors applications include single-phase and poly-phase, WYE and DELTA.
- IEM 146 - Quality Management and Control** 3
Study of quality management principles and quality control procedures. Students will study quality management from a historical perspective, as well as current quality management techniques. Production quality control methods such as sampling, inspecting and testing used to insure accuracy and high standards in production quality will be studied.

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IEM 148 - Inventory and Production Control 3

Study of production planning, scheduling, follow-up, and control of raw material, parts and finished goods inventories.

IEM 150 - Applications in IEM Problem Solving 1 to 4

Designed to allow a company to utilize an instructor to facilitate an actual problem or improvement project with a group of students or company employees, and for individualized special instruction by the instructor.

IEM 175 - IEM Internship 4 to 8

Prerequisites: Completion of 30 technical credit hours and consent of program coordinator. Application of work skills in a supervised work environment. Companies that sponsor internships provide the supervision. The college provides general guidance and works with the sponsoring company in developing an outline of the work experiences unique to the site. Course is designed to provide the student an opportunity to demonstrate work skills, work ethics and the ability to work with others. In addition to completing the training plan, the student must submit four to eight written technical reports.

IEM 200 - Technology Integration 3

Prerequisite: IEM 124 with a grade of C or higher. Course will evaluate a student's skill and ability to design, develop and troubleshoot a simulated manufacturing production system. Students will build a working production system in a simulated workplace environment stressing teamwork and troubleshooting skills. The goal is to prepare a student for entry into the workforce as an IEM technician.

Industrial Technology

INDT 140 - Mechanical and Fluid Power Principles 3

Course includes industrial technology principles and applications involving tools, hardware, mechanical advantage, bearings, belt and gear drives, lubrication, alignment, vibration, as well as fluid power systems, pressure, flow and directional controls, actuators, conduits, pumps, fluid conditioning, and a minor emphasis on maintenance/troubleshooting.

INDT 142 - Principles of Electricity 3

Course includes industrial technology principles and applications involving electrical topics of direct current, alternating current, electrical quantities, and values. Topics also include Ohm's Law, electric generation, energy conversion, magnetism, electromagnetism, series, parallel, and combination circuits, inductance,

capacitance, reactance, power factor and the application of electrical power in industry, single and poly-phase transformers, and WYE and DELTA systems.

INDT 144 - Machine Controls 3

Course includes industrial technology principles and applications involving the devices and components of industrial automation; relays, sensors and switches; fluid power components, motor starters and drives; combination of technologies in the systems of manufacturing and industrial processes; and an introduction to line diagrams of control circuits and troubleshooting.

INDT 146 - PLC Automation 3

Course includes industrial technology principles and applications involving Rockwell Automation/Allen-Bradley hardware and software. Configuration of hardware and communications, number systems, logic circuits and basic programming and functions such as one shot, latch, timers, counters, and data manipulation will be covered. Emphasis is on ability to visually assess the status of inputs and outputs, verify electrical signals, and comprehend basic PLC operations and functions.

Literature

LIT 101 - Introduction to Literature 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Study of fiction, poetry and drama. Special attention is given to literary terminology and critical analysis. Recommended but not required as a preparation for other courses in literature.

LIT 107 - American Literature 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Study of major American authors and works from the Colonial Period to the present, emphasizing development of concepts that have shaped American life and literature.

LIT 109 - English Literature 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Study of major English authors, genres and works from *Beowulf* to the present, emphasizing the development of concepts that have shaped English life and literature.

LIT 112 - World Literature 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Students will examine selected works of various Asian, African and European literature in translation from the ancient world to the 20th century.

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LIT 114 - Topics in Literature 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Study of a major writer, a literary type or a theme in literature. Specific subjects are announced each semester in which the course is offered.

LIT 180 - Problems in Literature 1 to 3

Prerequisites: LIT 101 and consent of instructor. Independent study of a special problem in literature under the supervision of an instructor in the department.

Machine Tool

MACH 101 - Introduction to Machining 4

Introduction to measuring tools used for work in machining or inspection processes. Introduces the proper setup and use of drilling machines, band saws and lathes. Theories will include use of tools and tool holders, cutting tool applications, and facing and turning on the lathe. Areas of study include safety, blueprint interpretation, hand tools, layout, and various gages and precision measuring instruments used to complete and inspect a machined part. (1 lecture, 3 lab)

MACH 102 - Lathe and Milling Machine Operations 4

Prerequisite: MACH 101. Continuation in the application of lathe operations including ID/OD diameter turning, threading, boring, and tapering. Introduces the proper use and setup of the vertical milling machine. Applications include squaring the machine and indicating angle pieces. Areas of study include safety, blueprint interpretation, and the selection of cutters, feeds and speeds. (1 lecture, 3 lab)

MACH 103 - Milling and Grinding Machine Applications 4

Prerequisite: MACH 102. Continuation of milling machine operations including dividing heads, precise movement of machines, turntable operations, and keyways. Introduces surface grinders including wheel selections, truing and dressing, work holders, and solutions in surface grinding. Areas of study include safety, blueprint interpretation, and proper setup and use of milling and grinding attachments. (1 lecture, 3 lab)

MACH 104 - Advanced Machining 4

Prerequisite: MACH 103. Introduces the use of the sine bar and sine plates on milling machines and surface grinders. Course presents advanced applications of lathes, mills and surface grinders. Advanced projects will be timed. Areas of study include estimation of

project time and bidding process, quality control and ISO. (1 lecture, 3 lab)

MACH 106 - CNC Machining 3

Provides fundamental technical information and some practical experience necessary for programming, editing and operating computer numerically controlled machine tools. Applications will include CNC Mill and CNC Lathe using MDI techniques. (1 lecture, 2 lab)

MACH 109 - Advanced CNC Machining 3

Prerequisite: MACH 106. Provides technical information and considerable practical experience in preparation, setup and operation of CNC Machining Center and CNC Lathe. Proofing, editing and post processing of programs will be emphasized using CAM software. Tooling and tool path generation methods will be explained along with fixed and canned cycles. (1 lecture, 2 lab)

MACH 112 - Machine Tool Equipment Repair 4

Prerequisite: MACH 106. Designed to teach correct procedures for repair and maintenance of machine tools. Study includes safety, repair and replacement of worn parts and diagnosis and repair of hydraulics, pneumatics and electrical components. (1 lecture, 3 lab)

MACH 114 - Statistical Process Control 3

Designed around the process of plotting production results to determine if both product and process meet company standards. Encourages prevention, as opposed to detection of defects, in helping to eliminate costly repairs and scrap.

MACH 115 - Heat Treating and Metallurgy 3

Knowledge of heat treatable steel and alloys will be presented in this course. Study of the operation of heat treating and drawing furnaces, quenching mediums, color spectrum, and hardness testing is included. Students will become familiar with the process involved in making iron and steel, noncarbon diagrams and identification of ferrous and nonferrous metals.

MACH 175 - Machine Tool Internship 1 to 8

Prerequisite: Consent of program coordinator. Provides opportunity to work with a skilled machinist to better understand skills and knowledge needed and to determine how the student likes actual machine tool work.

MACH 180 - Problems in Machine Tool 1 to 3

Prerequisite: Consent of program coordinator. Independent study of a special problem in machine tool technology under the supervision of a machine tool instructor.

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Math

MATH 004 - Basic Math

3

Prerequisite: Equivalent placement score. This computer-aided course is an overview of basic math skills necessary for placement into MATH 061. Students will achieve proficiency in the fundamental concepts including the manual process used for adding, subtracting, multiplying, and dividing with whole numbers, integers, fractions, decimals, percentages, exponents, LCM, and GCF. Successful completion requires a 70 percent on the comprehensive department final and a 70 percent in the course. A grade of C or higher is required to move into MATH 061. Does not apply toward a degree or certificate.

MATH 061 - Pre-Algebra

3

Prerequisites: ENGL 002 and MATH 004 with grades of C or higher or equivalent placement scores. Course is designed for review of basic math skills to prepare for MATH 064, MATH 101 or MATH 107. Students will achieve proficiency in the fundamental concepts including the manual process used for adding, subtracting, multiplying, and dividing with whole numbers, integers, fractions, decimals, percentages, exponents, LCM and GCF, ratio/proportions, unit analysis. Successful completion requires a 70 percent on the comprehensive department final and a 70 percent in the course. Does not apply toward a degree or certificate.

MATH 064 - Elementary Algebra

3

Prerequisites: ENGL 002 and MATH 061 with grades of C or higher or equivalent placement scores. Topics include properties of the real number system, linear equations and inequalities, absolute value, rules of exponents, graphing linear equations, basic operations with polynomials, and factoring polynomials. A grade of C or higher is required to advance. Does not apply toward a degree or certificate.

MATH 101 - Business Math

3

Prerequisite: MATH 061 with a grade of C or higher or equivalent placement scores. Practical approach to understanding the application of mathematics within the business environment. Emphasis is placed on developing mathematical solutions to problems in the areas of marketing, accounting, finance, and banking.

MATH 107 - Technical Math I

3

Prerequisite: MATH 061 with a grade of C or higher or equivalent placement scores. Course is designed to stress applications to practical problems as they apply to trade. Topics include whole numbers, number systems,

dimensions, fractions, powers, roots, exponents, scientific notation, basic algebra (linear and non-linear equations), rate, base and percentage, precision, accuracy, tolerance, simple equations, complex equations, systems of equations, quadratic equations, and Cartesian coordinate system.

MATH 108 - Technical Math II

3

Prerequisite: MATH 107 with a grade of C or higher or equivalent placement score. Designed to stress applications to practical problems as they apply to trade. Topics include plane geometry, solid geometry, angular measure, probability, statistics, Pythagorean Theorem, and fundamentals of trigonometry.

MATH 112 - Intermediate Algebra

3

Prerequisite: MATH 064 with a grade of C or higher or equivalent placement score. Topics include properties of the real number system, equations and inequalities involving absolute value, rational expressions and equations, introduction to functions, graphs of linear equations and inequalities in the plane, systems of equations in two unknowns, rational exponents and radicals, radical equations, imaginary and complex numbers, and quadratic equations.

MATH 114 - College Algebra

3

Prerequisite: MATH 112 with a grade of C or higher or equivalent placement score. Topics include properties of functions and their graphs, variation, rational functions and inequalities, polynomial equations and inequalities, the fundamental theorem of algebra, properties of logarithms, logarithmic and exponential equations, exponential growth, and decay.

MATH 116 - Finite Math

3

Prerequisite: MATH 112 with a grade of C or higher or equivalent placement score. Topics include applications of linear functions, matrix algebra, linear programming with the simplex algorithm, theory of finite sets with applications of Venn diagrams, combinatorial analysis, and probability theory.

MATH 117 - Contemporary Mathematics

3

Prerequisite: MATH 112 with a grade of C or higher or equivalent placement score. Mathematical concepts with historical perspectives from various branches of mathematics including an introduction to set theory, logic, number theory, statistics, probabilities, combinatorics, and geometry.

MATH 120 - Trigonometry

3

Prerequisite: MATH 114 or equivalent placement score. Corequisite: MATH 114. Topics include radius vector,

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right triangle and unit circle definitions of trigonometric functions, trig identities, graphs, inverse trigonometric functions, trigonometric equations, DeMoivre's Theorem, and conics.

MATH 122 - Precalculus Math 5

Prerequisite: MATH 112 with a grade of C or higher or equivalent placement score. Topics include algebraic, exponential, logarithmic, and trigonometric function; trigonometric identities, trigonometric equations, and other selected topics of algebra.

MATH 125 - Calculus for Business 3

Prerequisite: MATH 114 with a grade of C or higher or equivalent placement score. A brief treatment of elementary calculus with applications to business and economics. Topics include limits and continuity, derivatives and integrals of algebraic, exponential and logarithmic functions, compound interest, cost revenue and profit functions, and elasticity of demand.

MATH 127 - Business Statistics 3

Prerequisite: MATH 114 or MATH 116 with a grade of C or higher or equivalent placement score. Emphasizes data analysis, data production and statistical inference. Topics include descriptive statistics, probability, normal distributions, correlation and regression, design of samples and experiments, the central limit theorem, confidence intervals, and significance tests.

MATH 130 - Calculus and Analytic Geometry I 5

Prerequisites: MATH 122 with a grade of C or higher or MATH 114 and MATH 120 with grades of C or higher or equivalent placement scores. Topics include limits, continuity, derivatives and integrals of algebraic and transcendental functions, and appropriate applications.

MATH 131 - Calculus and Analytic Geometry II 5

Prerequisite: MATH 130 with a grade of C or higher. Topics include parametric and polar coordinates, methods of integration, series, and conic sections, and application of these topics.

MATH 132 - Calculus and Analytic Geometry III 5

Prerequisite: MATH 131 with a grade of C or higher. Topics include parametric equations of lines and curves in space, vectors, calculus of vector functions, multivariable, differential and integral calculus, introduction to vector analysis, and application of these topics.

MATH 134 - Differential Equations 3

Prerequisite: MATH 132 with a grade of C or higher. Course presents linear differential equations with application, series solutions and Laplace transforms.

MATH 180 - Problems in Math 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in mathematics under the supervision of a mathematics instructor.

Mass Communications

MCOM 101 - Introduction to Mass Media 3

Presents a basic overview of the scope and role of the mass media in society. Course integrates media aids with creative assignments and field trips to help students become informed media consumers and gain cultural and global perspectives on the communication industry.

MCOM 112 - Introduction to Public Relations 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Overview of the principles and practice of public relations in private and public organizations. Includes analysis of how various organizations' communication philosophies and practices impact their productivity and effectiveness in society.

MCOM 114 - News Reporting I 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Includes the examination of news value, rights and responsibilities of the press, news gathering and reporting techniques, leads, interviewing, style, and specialized articles.

MCOM 115 - News Reporting II 3

Prerequisite: MCOM 114. Application of concepts and methods learned in MCOM 114, including exploration of skills in researching and writing in-depth articles, and interaction with community leaders and media professionals are included.

MCOM 180 - Problems in Mass Communication 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in mass communication under the supervision of a mass communication instructor in the department.

Marine Technology

MRN 101 - Marine Systems Rigging I 6

Course provides a foundation of information and skills for a marine career. Course is offered through an agreement with the Lake Career and Technical Center.

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MRN 105 - Marine Ignition Systems 3	MRN 123 - Marine Systems Troubleshooting 3
Outboard, inboard, inboard/outboard, and personal watercraft ignition systems are explored in this course. Course is offered through an agreement with the Lake Career and Technical Center.	Course covers correct troubleshooting techniques. Course is offered through an agreement with the Lake Career and Technical Center.
MRN 107 - Marine Starter and Charging Systems 2	MRN 125 - Marine Fuel Systems 4
Course follows the progression of starter and charging systems in the outboard, inboard/outboard and the personal watercraft. Course is offered through an agreement with the Lake Career and Technical Center.	Course will cover the complexities of marine fuel systems and automatic oiling systems. Course is offered through an agreement with the Lake Career and Technical Center.
MRN 109 - Marine Cooling Systems 2	MRN 127 - Marine Instrumentation Systems 2
Course covers the systems used in the cooling process. Course is offered through an agreement with the Lake Career and Technical Center.	Course promotes understanding the different manufacturer systems and sending units. Course is offered through an agreement with the Lake Career and Technical Center.
MRN 111 - Marine Lubrication Systems 2	MRN 129 - Marine Power Trim/Tilt Systems 2
Course begins with the manual mixing of oil and fuel to provide lubrication, and progresses into the different automatic oiling systems. Course is offered through an agreement with the Lake Career and Technical Center.	Course will enable students to understand how hydraulic pumps can manage the pressure in a hydraulic system. Course is offered through an agreement with the Lake Career and Technical Center.
MRN 113 - Marine Engine Component and Precision Measuring 3	MRN 175 - Marine Technology Internship 4
Course provides the student with the skills to determine if an engine component is reusable. Course is offered through an agreement with the Lake Career and Technical Center.	The internship consists of approximately 160 clock hours at an approved marine facility. Course is offered through an agreement with the Lake Career and Technical Center.
MRN 115 - Marine Shop Procedures and Business Operations 2	Music
Properly completing a repair order, providing proper communication with the customer, keeping track of the unit(s) brought in for service, recording the diagnosis and repair process, and the date promised for repair completion. Course is offered through an agreement with the Lake Career and Technical Center.	MUS 100 - Fundamentals of Music 3
MRN 117 - Marine Engine Systems Analysis 2	Corequisite: MUS 105. Introduction to musical elements (notation, scale construction, key signatures, rhythms, intervals, triads, figured bass, cadences and non-harmonic tones) and their application within the context of music theory.
Course covers proper break-in procedure. Course is offered through an agreement with the Lake Career and Technical Center.	MUS 101 - Music Appreciation 3
MRN 119 - Marine Systems Preventive Maintenance 4	Overview providing knowledge of the basic elements of music, the important musical masterpieces of various eras and the significant composers in musical history. A portion of the course time is devoted to listening to recordings and viewing supporting video footage of selected composers and performers.
Course covers maintenance items the student must be responsible to complete. Course is offered through an agreement with the Lake Career and Technical Center.	MUS 102 - History of Rock Music 3
MRN 121 - Marine Power Transfer Systems 4	Analyses by decade of the many styles of modern music that have fallen under the descriptive term of rock and roll resulting in an understanding of rock music's importance as a cultural, generational and historical force in the 20th century. Focus will be given to key performing artists, groups and music trends in each
Transom plate and adapter systems, couplers, upper gear case, driveshaft housing, jet pumps, gear housings, strut bearings, and surface-piercing drive systems are part of the course. Course is offered through an agreement with the Lake Career and Technical Center.	

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decade from 1950 to the present. Lecture and discussion will also include the role that gender, race, and socio-political events played in the music of the second half of the 20th century.

MUS 103 - Music History and Literature Before 1800 3

Survey of music history and literature from its beginnings through the Baroque era, as well as the role of music in the historical fabric of each era. Instrumental and vocal/choral genres and major composers will be studied. A significant portion of course time will be devoted to listening to recordings of appropriate music, composers and performers.

MUS 104 - Music History and Literature Since 1800 3

Survey of music history and literature from the Classical era to the present, as well as the role of music in the historical fabric of each era. Instrumental and vocal/choral genres and major composers will be covered. A significant portion of course time will be devoted to listening to recordings of appropriate music, composers and performers.

MUS 105 - Fundamentals of Aural Training 1

Corequisite: MUS 100. Provides practical application of the skills learned in MUS 100 through sight singing, solfege, and rhythmic, melodic and harmonic dictation. Enhances and supports confidence in writing and performing music through the aural process.

MUS 106 - Music Theory I 3

Prerequisite: MUS 100. Corequisite: MUS 109. Continuation of MUS 100, developing theoretical competency in music notation, rhythm and meter, scales, intervals, triads, and melodic and harmonic analysis.

MUS 107 - Music Theory II 3

Prerequisite: MUS 106. Corequisite: MUS 110. Continuation of MUS 106 resulting in the application of more advanced theory concepts including the use of primary and secondary triads and seventh chords, the introduction of altered chords, modulations, and the use of cadential figures.

MUS 108 - Music Theory III 3

Prerequisite: MUS 107. Corequisite: MUS 111. Continuation of MUS 107 that will introduce advanced theory topics such as the use of modality and counterpoint in music as well as late 19th century harmonic functions and early 20th century compositional techniques. This is the terminal theory course for all music majors.

MUS 109 - Aural Training I 1

Prerequisite: MUS 105. Corequisite: MUS 106. Provides practical application of the skills being learned in MUS 106 through sight singing, solfege, and rhythmic, melodic and harmonic dictation. Enhances and supports confidence in music composition and performance through the aural process.

MUS 110 - Aural Training II 1

Prerequisite: MUS 109. Corequisite: MUS 107. Provides practical application of the skills learned in MUS 107 through more advanced sight singing, solfege, and rhythmic, melodic and harmonic dictation experiences. Enhances and supports confidence in writing and performing music through the aural process.

MUS 111 - Aural Training III 1

Prerequisite: MUS 110. Corequisite: MUS 108. Provides practical application of the skills learned in MUS 108 through advanced sight singing, solfege, and rhythmic, melodic and harmonic dictation experiences. Enhances and supports confidence in writing and performing music through the aural process. This is the terminal aural training course for all music majors.

MUS 112 - Small Instrumental Ensemble I 1

Prerequisite: Consent of instructor. Study and performance of music written specifically for small instrumental music ensembles. Focuses on musical skills required for successful performance of literature from various musical genres.

MUS 113 - Small Instrumental Ensemble II 1

Prerequisite: MUS 112 and consent of instructor. Continuation of the skills learned in MUS 112. Second enrollment in Small Instrumental Ensemble entails the study and performance of music written specifically for small instrumental music ensembles.

MUS 114 - Small Instrumental Ensemble III 1

Prerequisite: MUS 113 and consent of instructor. Continuation of the skills learned in MUS 113. Third enrollment in Small Instrumental Ensemble entails the study and performance of music written specifically for small instrumental music ensembles but emphasizes more advanced performance techniques.

MUS 114B - Small Instrumental Ensemble IV 1

Prerequisite: MUS 114 and consent of instructor. Continuation of the skills learned in MUS 114. Fourth enrollment in Small Instrumental Ensemble entails the advanced study and performance of music written specifically for small instrumental music ensembles emphasizing advanced performance techniques.

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MUS 119 - Jazz Band I 1	MUS 126 - Piano for Pleasure I 2
Prerequisite: Consent of instructor. A select ensemble that performs band literature representing the various styles and genres of traditional and nontraditional jazz. Instruction will focus on skills required for successful performance (tone, articulation, breathing, balance, rhythm, etc.).	Introduction to playing the piano for nonmusic majors. Skills learned will include note reading in bass and treble clefs, rhythmic reading, and other basic music skills appropriate for beginning players. Group courses could also include ensemble pieces. Not open to music majors.
MUS 120 - Jazz Band II 1	MUS 128 - Piano for Pleasure II 2
Prerequisites: MUS 119 and consent of the instructor. A select ensemble that performs band literature representing the various styles and genres of traditional and nontraditional jazz. Second enrollment in Jazz Band will focus on advancing those skills required for successful performance (tone, articulation, breathing, balance, rhythm, etc.).	Advancement of skills learned in MUS 126. Introduction to playing the piano for nonmusic majors. Skills learned will include note reading in bass and treble clefs, rhythmic reading, and other basic music skills appropriate for beginning players. Group courses could also include ensemble pieces. Not open to music majors.
MUS 121 - Jazz Band III 1	MUS 136 - Applied Instrumental Lessons I 1 to 2
Prerequisites: MUS 120 and consent of the instructor. A select ensemble that performs band literature representing the various styles and genres of traditional and nontraditional jazz. Third enrollment in Jazz Band will focus on advancing those skills required for successful performance (tone, articulation, breathing, balance, rhythm, etc.).	Performance-oriented study of the technique and literature associated with a specific musical instrument through weekly private lesson and student independent study. Performance on one recital and final jury required.
MUS 122 - Jazz Band IV 1	MUS 137 - Applied Instrumental Lessons II 1 to 2
Prerequisites: MUS 121 and consent of the instructor. A select ensemble that performs band literature representing the various styles and genres of traditional and nontraditional jazz. Fourth enrollment in Jazz Band will focus on advancing those skills required for successful performance (tone, articulation, breathing, balance, rhythm, etc.).	Prerequisite: MUS 136. Performance-oriented study of the technique and literature associated with a specific musical instrument through weekly private lesson and student independent study. Performance on one recital and final jury required.
MUS 123 - Jazz Band V 1	MUS 138 - Applied Instrumental Lessons III 1 to 2
Prerequisites: MUS 122 and consent of the instructor. A select ensemble that performs band literature representing the various styles and genres of traditional and nontraditional jazz. Fifth enrollment in Jazz Band will focus on advancing those skills required for successful performance (tone, articulation, breathing, balance, rhythm, etc.).	Prerequisite: MUS 137. Performance-oriented study of the technique and literature associated with a specific musical instrument through weekly private lesson and student independent study. Performance on one recital and final jury required.
MUS 124 - Jazz Band VI 1	MUS 139 - Applied Instrumental Lessons IV 1 to 2
Prerequisites: MUS 123 and consent of the instructor. A select ensemble that performs band literature representing the various styles and genres of traditional and nontraditional jazz. Sixth enrollment in Jazz Band will focus on advancing those skills required for successful performance (tone, articulation, breathing, balance, rhythm, etc.).	Prerequisite: MUS 138. Performance-oriented study of the technique and literature associated with a specific musical instrument through weekly private lesson and student independent study. Performance on one recital and final jury required.
	MUS 139B - Applied Instrumental Lessons V 1 to 2
	Prerequisite: MUS 139. Performance-oriented study of the technique and literature associated with a specific musical instrument through weekly private lesson and student independent study. Performance on one recital and final jury required.
	MUS 139C - Applied Instrumental Lessons VI 1 to 2
	Prerequisite: MUS 139B. Performance-oriented study of the technique and literature associated with a specific

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musical instrument through weekly private lesson and student independent study. Performance on one recital and final jury required.

MUS 140 - Guitar Class I 2

Practical study of the guitar designed for beginning students with less than one year of experience.

MUS 141 - Guitar Class II 2

Prerequisite: MUS 140 or approval of instructor.

Continuation of the skills learned in MUS 140 leading to more advanced guitar performance skills. Designed to allow the student to continue studying guitar beyond MUS 140.

MUS 145 - Beginning Piano Class I 2

Study of piano performance skills, especially for students with little or no previous training. Covers rudiments of music, hand positions and performing hands separately and together; intervals, triads and scales are also covered. Required for music majors.

MUS 146 - Beginning Piano Class II 2

Prerequisite: MUS 145. Continuation of the study of piano performance skills learned in MUS 145. Continued work performing hands separately and together; intervals, triads, simple harmony, and scales are also covered. Required for music majors.

MUS 147 - Intermediate Piano Class I 2

Prerequisite: MUS 146. Continuation of the study of piano performance skills learned in MUS 146 with emphasis on specific skills necessary to pass the piano proficiency examination. Required for music majors.

MUS 148 - Intermediate Piano Class II 2

Prerequisite: MUS 147. Continuation of the study of piano performance skills learned in MUS 147 with emphasis on specific skills necessary to pass the piano proficiency examination. Required for music majors.

MUS 150 - Applied Piano Lessons I 1 to 2

Prerequisite: One year of a piano course. Private piano lessons. Intended only for serious piano students.

MUS 151 - Applied Piano Lessons II 1 to 2

Prerequisite: MUS 150. Second enrollment in Piano Lessons. Private piano lessons. Intended only for serious piano students.

MUS 152 - Applied Piano Lessons III 1 to 2

Prerequisite: MUS 151. Third enrollment in Piano Lessons. Private piano lessons. Intended only for serious piano students.

MUS 153 - Applied Piano Lessons IV 1 to 2

Prerequisite: MUS 152. Fourth enrollment in Piano Lessons. Private piano lessons. Intended only for serious piano students.

MUS 155 - Voice Class 2

Study of vocal techniques and beginning vocal performance. Open to any interested students. Will include both group and individual singing.

MUS 160 - Applied Voice Lessons I 1

Prerequisite: One year of a voice course. Performance-oriented study of voice through weekly private applied lesson and student independent study. Instruction will focus on individual vocal needs and strengths. Performance on one recital and final jury required.

MUS 161 - Applied Voice Lessons II 1

Prerequisite: MUS 160. Performance-oriented study of voice through weekly private applied lesson and student independent study. Instruction will focus on individual vocal needs and strengths. Performance on one recital and final jury required.

MUS 162 - Applied Voice Lessons III 1

Prerequisite: MUS 161. Performance-oriented study of voice through weekly private applied lesson and student independent study. Instruction will focus on individual vocal needs and strengths. Performance on one recital and final jury required.

MUS 163 - Applied Voice Lessons IV 1

Prerequisite: MUS 162. Performance-oriented study of voice through weekly private applied lesson and student independent study. Instruction will focus on individual vocal needs and strengths. Performance on one recital and final jury required.

MUS 163B - Applied Voice Lessons V 1

Prerequisite: MUS 163. Performance-oriented study of voice through weekly private applied lesson and student independent study. Instruction will focus on individual vocal needs and strengths. Performance on one recital and final jury required.

MUS 163C - Applied Voice Lessons VI 1

Prerequisite: MUS 163B. Performance-oriented study of voice through weekly private applied lesson and student independent study. Instruction will focus on individual vocal needs and strengths. Performance on one recital and final jury required.

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- MUS 165 - Chorale I** 1
This large ensemble performs choral literature and representative works in various styles of choral composition from various eras. Open to all who enjoy singing. Instruction will include fundamentals of good ensemble singing, vocal health and vocal production.
- MUS 166 - Chorale II** 1
Prerequisite: MUS 165. Second enrollment in Chorale. This large ensemble performs choral literature and representative works in various styles of choral composition from various eras. Open to all who enjoy singing. Instruction will include fundamentals of good ensemble singing, vocal health and vocal production.
- MUS 167 - Chorale III** 1
Prerequisite: MUS 166. Third enrollment in Chorale. This large ensemble performs choral literature and representative works in various styles of choral composition from various eras. Open to all who enjoy singing. Instruction will include fundamentals of good ensemble singing, vocal health and vocal production.
- MUS 168 - Chorale IV** 1
Prerequisite: MUS 167. Fourth enrollment in Chorale. This large ensemble performs choral literature and representative works in various styles of choral composition from various eras. Open to all who enjoy singing. Instruction will include fundamentals of good ensemble singing, vocal health and vocal production.
- MUS 170 - Small Ensemble I** 1
Prerequisite: Consent of instructor. Performance and study of music written specifically for small vocal ensembles.
- MUS 171 - Small Ensemble II** 1
Prerequisites: MUS 170 and consent of instructor. Second enrollment in Small Ensemble. Performance and study of music written specifically for small vocal ensembles.
- MUS 172 - Small Ensemble III** 1
Prerequisites: MUS 171 and consent of instructor. Third enrollment in Small Ensemble. Performance and study of music written specifically for small vocal ensembles.
- MUS 173 - Small Ensemble IV** 1
Prerequisites: MUS 172 and consent of instructor. Fourth enrollment in Small Ensemble. Performance and study of music written specifically for small vocal ensembles.
- MUS 175 - Chamber Singers I** 1
Prerequisite: Consent of instructor. Select choir of mixed voices that performs chamber music from all historical periods. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).
- MUS 176 - Chamber Singers II** 1
Prerequisites: MUS 175 and consent of instructor. Second enrollment in Chamber Singers. Select choir of mixed voices that performs chamber music from all historical periods. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).
- MUS 177 - Chamber Singers III** 1
Prerequisites: MUS 176 and consent of instructor. Third enrollment in Chamber Singers. Select choir of mixed voices that performs chamber music from all historical periods. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).
- MUS 178 - Chamber Singers IV** 1
Prerequisites: MUS 177 and consent of instructor. Fourth enrollment in Chamber Singers. Select choir of mixed voices that performs chamber music from all historical periods. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).
- MUS 178B - Chamber Singers V** 1
Prerequisites: MUS 178 and consent of instructor. Fifth enrollment in Chamber Singers. Select choir of mixed voices that performs chamber music from all historical periods. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).
- MUS 178C - Chamber Singers VI** 1
Prerequisites: MUS 178B and consent of instructor. Sixth enrollment in Chamber Singers. Select choir of mixed voices that performs chamber music from all historical periods. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).
- MUS 180 - Problems in Music** 1 to 3
Prerequisite: Consent of instructor. Independent study of a special problem in music under the supervision of a music instructor.
- MUS 210 - Jazz Choir I** 2
Prerequisite: Consent of instructor. This group performs vocal jazz, show tunes and pop music. Students perform in college and community concerts as well as on tours, clinics and other performance venues. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).

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MUS 211 - Jazz Choir II 2

Prerequisites: MUS 210 and consent of instructor. Second enrollment in Jazz Choir. This group performs vocal jazz, show tunes and pop music. Students perform in college and community concerts as well as on tours, clinics and other performance venues. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).

MUS 212 - Jazz Choir III 2

Prerequisites: MUS 211 and consent of instructor. Third enrollment in Jazz Choir. This group performs vocal jazz, show tunes and pop music. Students perform in college and community concerts as well as on tours, clinics and other performance venues. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).

MUS 213 - Jazz Choir IV 2

Prerequisites: MUS 212 and consent of instructor. Fourth enrollment in Jazz Choir. This group performs vocal jazz, show tunes and pop music. Students perform in college and community concerts as well as on tours, clinics and other performance venues. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).

MUS 214 - Jazz Choir V 2

Prerequisites: MUS 213 and consent of instructor. Fifth enrollment in Jazz Choir. This group performs vocal jazz, show tunes and pop music. Students perform in college and community concerts as well as on tours, clinics and other performance venues. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).

MUS 215 - Jazz Choir VI 2

Prerequisites: MUS 214 and consent of instructor. Sixth enrollment in Jazz Choir. This group performs vocal jazz, show tunes and pop music. Students perform in college and community concerts as well as on tours, clinics and other performance venues. Instruction will focus on ensemble skills necessary for successful performance (tone production, diction, blend, balance, phrasing, etc.).

Networking

NET 101 - Introduction to Networks 3

Introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

NET 102 - Networking Essentials 3

Use and implementation of local area networks and network design.

NET 103 - Routing and Switching Essentials 3

Prerequisite: NET 101 with a grade of C or higher. Describes the architecture, components and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks.

NET 106 - Introduction to Network Security 3

Prerequisite: NET 101 with a grade of C or higher. Course will introduce students to a basic understanding of computer, network and organizational security as it relates to the information technology field.

NET 120 - Network Server 3

Prerequisite: NET 101 with a grade of C or higher. Course will cover the current popular server operating system. Topics include planning a network, installing hardware and software, management, client accounts, and troubleshooting. Course will be structured to the requirements for certification.

NET 125 - Linux Operating Systems 3

Prerequisite: NET 101 with a grade of C or higher. Course will cover the basics of operating and managing a Linux-based operating system

NET 126 - Network Client 3

Prerequisite: NET 101 with a grade of C or higher. Study of the operating system used on today's workstations. Installation, administration, configuring files, security, and local and network printing will be presented from a network administrator's viewpoint. Troubleshooting and networking the operating system will be included.

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- NET 135 - SQL Server System Administration** 3
Prerequisite: NET 120 with a grade of C or higher.
How to install, configure and administrate SQL Server. Topics include configuring database options (capacity, connectivity and performance); automating data transfer and manipulation with Data Transformation Services (DTS) packages; using SQL Server replication services; managing security (authentication, logins, permissions, and alerts); monitoring and fine-tuning system performance; performing backups and restorations; clustering databases; supporting SQL Server in a clustered environment; implementing disaster recovery; and optimizing clustering performance.
- NET 136 - Exchange Server Administration** 3
Prerequisite: NET 120 with a grade of C or higher.
Installing, configuring and administering Microsoft Exchange Server. Configure Microsoft Directory Services, administer groups and public folder solutions for Exchange Server. Deployment of mail clients such as Outlook and Outlook Web Access, as well as configuring recipient objects for email, instant messaging and chat. Learn to troubleshoot messaging connectivity and how to resolve problems with clients, routing, foreign mail systems, and links between servers. Additional topics include enhanced Exchange Server Security using v.3 certificates, virtual servers, and Key Management Server; optimizing messaging, collaboration and calendaring services; managing the Microsoft Web Storage System; and developing a backup and recovery plan for system and user data.
- NET 138 - Network Directory Services** 3
Prerequisite: NET 120 with a grade of C or higher. The planning, configuring and administering of Network Directory Services and infrastructure on a LAN. Topics include the installation and configuration of Domain Name System (DNS); the administration of the network users' environment and software using group policies; Remote Installation Services (RIS); management of users, groups, shared folders, and network resources; implementing network security and security troubleshooting; and monitoring and optimizing the Directory Services.
- NET 140 - PC Hardware** 3
Presents Microcomputer architecture, I/O and systems operation. Other topics include peripherals, diagnostics, drives, memory, and maintenance procedures. Laboratory consists of troubleshooting selected computer systems.
- NET 142 - PC Operating Systems** 3
Study of computer operating systems including Windows, Linux and DOS, with requirements of necessary hardware and known problems and features. Laboratory consists of installation, maintenance and repair of operating systems.
- NET 158 - Network Firewalls** 3
Prerequisites: NET 106 and NET 203 with grades of C or higher. Course will cover the functions, features and configuration of a firewall as applied in a network. Covers setup, management, traffic filtering, and VPNs. Students will configure and implement firewalls to protect the network from external threats. Hands-on coursework is included in the course.
- NET 175 - Network Administration Internship** 4
Prerequisite: Consent of program coordinator. Designed for practical application in the operations of a network. Provides on-the-job training work experience in the area of computer networks. Student will be supervised and evaluated by the instructor.
- NET 180 - Networking Project** 1 to 3
Prerequisite: Consent of program coordinator.
Independent study of a special problem in networking under the supervision of a Networking instructor.
- NET 201 - Scaling Networks** 3
Prerequisite: NET 103 with a grade of C or higher.
Describes the architecture, components and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network.
- NET 202 - Digital Forensics** 3
Prerequisites: NET 101 and NET 106 with grades of C or higher. Course will introduce students into the basics concepts and skills used when investigating possible computer crimes. Such skills could be beneficial in a variety of roles, working with law enforcement, private contractors, etc.
- NET 203 - Connecting Networks** 3
Discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students

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learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network.

NET 206 - Ethical Hacking 3

Prerequisites: NET 101 and NET 106 with grades of C or higher. Course will introduce students to the basics of scanning, testing, hacking, and securing resources. Expanding upon the basics of general security practices, students will gain a better understanding of how to better secure resources.

NET 222 - Enterprise Applications I 3

Prerequisites: NET 120 and NET 138 with grades of C or higher. Course will introduce students to various server applications that are widely utilized throughout the information systems industry.

NET 223 - Enterprise Applications II 3

Prerequisites: NET 120 and NET 138 with grades of C or higher. Course will introduce students to various server applications that are widely utilized throughout the information systems industry.

NET 231 - Mobile Networking 3

Prerequisites: NET 101 and NET 126 with grades of C or higher. This course will teach students the basics of configuration, supporting and managing mobile devices in the corporate network.

NET 238 - Server Virtualization 3

Prerequisite: NET 120 with a grade of C or higher. Course will teach students in the setup, configuration and management of virtualized servers.

NET 240 - Enterprise Storage 3

Prerequisite: NET 120 with a grade of C or higher. Course is designed to introduce students to technologies utilized for data storage in the enterprise environment.

Nursing

NURS 102 - CPR for Health Care Providers .5

American Heart Association course teaches health care providers how to recognize and respond to life-threatening emergencies such as respiratory arrest, cardiac arrest and foreign-body obstruction in infants, children and adults. The skills necessary to respond to these emergencies are demonstrated and practiced during the course. Course includes use of an AED. Upon successful completion the student will be issued an American Heart Association CPR card for Health Care Providers. This is a pass/fail course.

NURS 103 - CPR Recertification .25

Course is required to maintain American Heart Association CPR certification in the health care field. A current American Heart Association CPR card for Health Care Provider is required to enroll in the course. This is a pass/fail course.

NURS 110 - Personal Vocational Concepts 1

Evidence-based practice concepts in nursing are introduced as they relate to standards of care, behavioral concepts important to the nurse, history of nursing, role identification and responsibility, and ethical and legal aspects of the licensed practical nurse and registered nurse.

NURS 112 - Introduction to Psycho-Social Health 2

Basic concepts of wellness and illness, caring, communication techniques, and growth and development across the life cycle are introduced with an emphasis on evidence-based care. Special circumstances, such as the impact of violence and abuse, as well as the grieving process of the individual and family, will be explored. Special treatment modalities such as medications will be discussed with regard to concepts of mental health.

NURS 114 - Fundamentals I 2

Essential nursing skills utilizing current standards of practice required for entry-level nurses are introduced. The learner will demonstrate an understanding of how to assist clients with important daily activities and basic nursing assessment skills through both classroom and hands on learning experiences. (1 lecture, 1 lab)

NURS 117 - Fundamentals II 3

Presents more advanced essential nursing skills based upon current standards of practice that are required for entry-level nurses. The learner is introduced to the nursing process that is utilized in the delivery of nursing care. Skills are presented through both classroom and hands-on learning experiences and includes development of nursing assessment skills, medication administration, IV therapy, and other technical skills. (1.5 lecture, 1.5 lab)

NURS 118 - Fundamentals II Clinical 1.5

Essential nursing skills utilizing current standards of practice presented in NURS 114 and NURS 117 will be applied in both long term and acute care clinical settings. Skills that will be mastered include physical assessment, therapeutic communication, basic nursing care, IV therapy, and nursing documentation. This is a pass/fail course.

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NURS 119 - Allied Health Pharmacology Basic pharmacologic, pharmacodynamic and pharmacokinetic principles for the most common drug classifications and specific selected drugs will be explored using evidence-based practices.	3	including the laboring woman, postpartum patient/family, the newborn, and gynecological issues.
NURS 122 - Adult Health I Entry-level, evidence-based nursing care will be discussed for clients experiencing alterations in the respiratory, cardiac and immune systems; clients undergoing surgery; and clients with cancer.	4	NURS 136 - Childbearing Family Clinical 1.5 Foundational learning that focuses on the uncomplicated health care and wellness promotion, by using evidence-based care for the family during the reproductive years including the laboring woman, postpartum patient/family, the newborn and gynecological issues. This is a pass/fail course.
NURS 124 - Adult Health II This basic nursing course addresses evidence-based practice principles and nursing care for clients experiencing alterations in renal, neurological and gastrointestinal systems, as well as the client who has developed diabetes mellitus. Included are basic strategies for leadership and conflict resolution.	4	NURS 140 - Nursing Care Child Rearing Family 2 Concepts of assessment, growth and development, and nutrition for the pediatric patient, medication administration for children, common recurring health conditions, and evidence-based nursing care of the hospitalized child are discussed.
NURS 126 - Adult Health Nursing Clinical Basic nursing concepts utilizing best practices are applied to the acute clinical setting. The student will provide nursing care to the client and family with altered health status, relating laboratory findings, medications, and client response. IV therapy will be utilized in the clinical course. This is a pass/fail course.	3	NURS 142 - Child Rearing Family Clinical 1.5 Participation in community and hospital activities to develop skills in family-centered nursing care of children is expected. Experiences will include health promotion activities in the community and providing evidence-based nursing care of ill children in the hospital setting. This is a pass/fail course.
NURS 128 - Adult Health III Principles of evidence-based nursing care are addressed for patients experiencing alterations in the endocrine, sensory, musculoskeletal, skin, integumentary, and hematological systems.	2	NURS 210 - Nursing Transition Course 2 Prerequisite: Acceptance to Year Two of the Associate Degree Nursing (ADN) program. Building upon the knowledge obtained from the practical nursing curriculum, the advanced placement student reviews the philosophy, outcome-based curriculum and use of evidence-based practice. The student transitioning into the ADN program will have opportunities to demonstrate competencies in pharmacology (including dosage calculations), IV starts and maintenance, physical assessment, and more. The student will explore safe and effective care, health promotion, care of the older adult, and cultural awareness. Completion of the course with a B or better is required to continue in the ADN program.
NURS 130 - Adult Health Care Coordination Clinical Focuses on the utilization and application of basic skills gained from the practical nursing curriculum and incorporates current standards and evidence-based practice for the entry-level professional nurse role. Emphasis is placed on principles of leadership, conflict resolution, coordinating client care, and applying basic nursing principles across the lifespan. This is a pass/fail course.	2	NURS 213 - Introduction to Professional Nursing 2 Building upon the knowledge obtained from the practical nursing curriculum and incorporating current standards of practice and evidence-based care for the entry-level professional nurse, the student's current leadership and management abilities are explored and enhanced. Exploration focuses on the roles and functions of the professional registered nurse in various health care settings. Topics of discussion include professionalism, leadership and management styles, delegation, disaster management, and priority setting when caring for diverse and aging populations and cultures.
NURS 132 - Nutrition Essential nutrient digestion, absorption, metabolism, and excretion are emphasized. Diet analysis and current issues in nutrition will aid the student in applying evidence-based practice to the basic concepts of everyday situations throughout the life cycle.	3	
NURS 134 - Nursing Care Childbearing Family Foundational learning that focuses on the uncomplicated health care and wellness promotion, by using evidence-based care for the family during the reproductive years	2	

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- NURS 215 - Complex Health: Mental Health** 2.5
Building upon the knowledge obtained from the practical nursing curriculum, the nurse's role in promoting evidence-based psychosocial integrity for the client and family/significant others are explored. Topics include the use of coping mechanisms, crisis intervention, therapeutic communication, psychopathology, and case management. Emphasis is placed on client education, available resources and strategies, and current trends in providing care in the community setting to promote wellness.
- NURS 216 - Complex Health: Mental Health Clinical** 2
Focuses on managing clients in the mental health setting by incorporating current standards and evidence-based practice to the professional registered nurse role. Emphasis will be on planning and managing the care of a client in an inpatient mental health facility by participating and leading therapeutic groups. Application from NURS 215 will be demonstrated in the clinical settings. This is a pass/fail course.
- NURS 219 - Complex Health: Elimination** 3
Building upon the knowledge obtained from the practical nursing curriculum and incorporating current evidence-based practice for the professional nurse, complex features of selected diseases and disorders of the liver, gastrointestinal and renal systems are discussed and explored. The discussions will be centered on the nursing process and the Gordon's Functional Health patterns framework. Topics will include pathophysiology and the medical and/or surgical management of the patient and older adult with these diseases or disorders. Cultural and psychosocial issues are also discussed.
- NURS 221 - Complex Health: Nutrition/Metabolic** 2.5
Building upon the knowledge obtained from the practical nursing curriculum and the first semester of professional nursing school, the student will incorporate current standards and evidence-based practice for the professional registered nurse. Complex features of selected acid base, fluid and electrolyte disorders, selected exocrine disorders and injuries, management of immune system problems are discussed and explored. The student will evaluate safe and effective care, health promotion, care of the older adult, and cultural awareness. The discussions will be centered on the nursing process and the Gordon's Functional Health patterns framework.
- NURS 227 - Complex Health: Family** 3
Advances the student's ability to provide evidence-based complex care for the newborn, pediatric and obstetric clients with complicated issues or at high risk for developing complications. Discussions will be centered on the nursing process.
- NURS 228 - Complex Health: Family Clinical** 1
Focuses on managing clients with complex health care needs and incorporates current standards of evidence-based practice to the professional registered nurse role. Emphasis is placed on problem-solving, advanced physical assessment techniques and time management activities. Application of the principles from NURS 227 will be demonstrated in the appropriate clinical settings. This is a pass/fail course.
- NURS 230 - Complex Health: Adult Clinical I** 1
In this clinical, the student will begin to utilize and apply appropriate advanced nursing concepts from NURS 213 and medical surgical knowledge to the professional registered nurse role including principles of the nursing process, current standards of evidence-based practice, leadership, and management where applicable to care for adults and older adults. This is a pass/fail course.
- NURS 231 - Complex Health: Adult Clinical II** 1
This clinical course is a continuation of NURS 230 and preparation for NURS 233. Using current standards of care and evidence-based practice the student will coordinate care for multiple clients at the acute care clinical site. The focus will be on further development of the professional nurse role, management, leadership, and delegation with emphasis on principles of prioritization and coordination of patient care for the adult and older adult. This is a pass/fail course.
- NURS 233 - Complex Health: Adult Clinical III** 3
Building upon the knowledge obtained from the practical nursing curriculum and the first semester of professional nursing school the student will work in an inpatient clinical area. This course is an inpatient clinical course focusing on managing clients with complex health care needs. The student will manage care for clients in medical and surgical units, ICU, ER and step-down units. There will be an emphasis on prioritization, critical thinking, delegation, problem-solving, advanced physical assessment techniques, cultural awareness, care of the aged, and time management activities. Evidence-based practice is used in applying the assessment process to nursing care. Application of the principles from NURS 213, NURS 221, NURS 234, and NURS 237 will be demonstrated in the appropriate clinical settings while building upon NURS 230 and NURS 231 clinical. This is a pass/fail course.

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NURS 234 - Complex Health: Activity and Rest 3

Building upon the knowledge obtained from the practical nursing curriculum and the first semester of professional nursing school the student will incorporate current standards and evidence-based practice for the professional registered nurse. This will include complex features of selected cardiovascular, respiratory, gastrointestinal, and traumatic disorders and injuries and discussion of the nursing care. Nursing that includes safe and effective care, health promotion, age and culture implications are explored as part of the learning process. The discussions will use evidence-based practice, centered on the nursing process, application of the nursing assessment to case studies and review of prioritization and implementation in conjunction with Gordon's Functional Health patterns framework.

NURS 237 - Complex Health: Cognitive/Perceptual 3

Building upon the knowledge obtained from the practical nursing curriculum and incorporating current standards and evidence-based practice for the professional registered nurse, complex features of selected neurological diseases, disorders and injuries are discussed and explored. Corresponding pharmacological interventions will be discussed. The discussions will be centered on the nursing process and the Gordon's Functional Health patterns framework.

NURS 243 - Professional Nursing Capstone Clinical 2.5

Focuses on the utilization and application of complex skills and knowledge gained from the associate nursing curriculum and incorporates current standards and evidence-based practice to the professional registered nurse role. Emphasis is placed on mastery of assessment, documentation, teaching, medication knowledge and administration, prioritization, time management, and communication with clients, families, staff, and peers. Application and demonstration of leadership, management, legal and ethical principles of delegation for the registered nurse in various community and acute care settings is also expected. This is a pass/fail course.

Office Administration

OADM 102 - Introduction to Keyboarding 1

Optional test out. Individualized course which provides the student with a mastery of touch-typing. Emphasis is placed on developing speed and accuracy through instruction, guided practice and timed writings. Course is not intended for health information technology or office management majors. There is not any document production in this course.

OADM 104 – Keyboarding 3

Optional test out. Individualized course provides the beginning student with a mastery of touch-typing and an introduction to basic formats of letters, memos, tables, and reports. All office management students and health information technology students are required to take this course as part of their core curriculum.

OADM 106 - Document Formatting 2

Optional test out. Prerequisite: OADM 104. Individualized course which includes processing various business and professional documents and forms. Emphasis is placed on accuracy, speed development and ability to follow directions. Core requirement for all office management majors.

OADM 116 - Records and Database Management 3

Prerequisite: CAPP 125. Management of paper, film and computer records is studied, and techniques for solving records and database management problems are discussed. Microsoft Access software is used in completion of computer projects.

OADM 118 - Transcription Skills 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Consists of a concentrated drill and discussion of business English usage, punctuation and style as applied to transcription of business correspondence.

OADM 121 – Calculators 1

Prerequisite: MATH 101 is recommended. Course designed to teach touch operation of 10-key printing and display calculators along with their special timesaving features. Emphasis is placed on speed and accuracy.

OADM 123 - Professional Business Leadership 1

Applied course in professional leadership to bring business and education together in a positive working relationship.

OADM 125 - Skillbuilding for Office Support Services 1

Prerequisite: OADM 104 is recommended. Individualized course designed to improve accuracy and speed. Office support services certificate candidates must achieve a grade of C or higher in order to complete graduation requirements for the program.

OADM 127 - Skillbuilding for Office Management 1

Prerequisites: OADM 104 and OADM 106. Individualized course designed to improve accuracy and speed. Office management degree candidates must achieve a grade of B or higher in order to complete graduation requirements for the program.

SECTION 3 / COURSE DESCRIPTIONS

OADM 134 - Office Management 3

Prerequisites: ACCT 109, CAPP 160, CAPP 164, CAPP 166, and OADM 116. Corequisites: ACCT 109, CAPP 160, CAPP 164, CAPP 166, and OADM 116. Capstone course for the Professional Certificate in Office Support Services and the Associate of Applied Science in Business Management with Office Management Specialty. Course includes activities and information in human relations, personal and professional qualities, decision-making, office supervision, incoming and outgoing mail, minutes, office procedures, work ethics, time management, appearance, record keeping, office organization, personnel management, and demeanor.

OADM 175 - Office Management Internship 3

Prerequisites: OADM 134 with a grade of C or higher and consent of program coordinator. Corequisite: OADM 134. An on-the-job work experience which provides the student the opportunity to work in an office environment. Students are evaluated by the instructor and employer.

Occupational Safety Health Administration

OSHA 102 - OSHA 10-hour Construction Industry 1

Course is provided for those seeking employment in a field that operates on construction sites governed by the safety regulations of 29 CFR 1926, OSHA Standards for the Construction Industry. Upon successful completion of this course, the student will earn an OSHA 10-hour completion card. This is a pass/fail course.

Occupational Therapy Assistant

OTA 200 - Foundations of Occupational Therapy 4

Course presents an introduction to occupational therapy including history, philosophical base, values, ethics, practice framework, and clinical reasoning. Students will learn selected theories and frames of reference as they pertain to interventions in mental health, physical disabilities, pediatrics, and community practice areas. An overview of the occupational therapy process, including assessment, treatment planning, treatment implementation, and discontinuation of intervention will be presented. The role of occupational therapy in health care, community-based, and educational systems will be explored. Role delineation and collaboration of the occupational therapy assistant with other occupational therapy and health care personnel are discussed. This course includes visits to a variety of occupational therapy settings.

OTA 205 - Medical Conditions in Occupational Therapy 3

Course presents the etiology and symptoms of medical and psychological clinical conditions across the lifespan that are commonly referred to occupational therapy services. Course content emphasizes the effects of trauma, disease and congenital conditions on the biological, psychological and social domains of occupational behavior. An exploration of cultural perspectives on disease and wellness will be included.

OTA 210 - Analysis of Occupations 2

Observation, analysis and performance of human occupation in work, self-care, and play and leisure activities throughout the lifespan are emphasized. Students will select, analyze, adapt, grade, and use goal-directed, client-centered therapeutic activities and techniques to promote engagement in occupations. Skills in using the teaching-learning process with clients, families and others will be incorporated. The development of observation and data collection skills will be emphasized. Community experiences are provided for observation, interview, assessment, and relational skills with persons experiencing cross disabilities throughout the lifespan. Professional and therapeutic relationships encompassing holism are discussed.

OTA 215 - Mental Health and Psychosocial Practice 4

Course presents the role of the occupational therapy assistant in the psychosocial area of occupational therapy practice. Students will learn selected frames of reference and explore the effects of psychosocial dysfunction on areas of occupation. Students will learn skills necessary to assess, implement and document intervention in a variety of mental health settings. Client factors, including culture and diversity, therapeutic interactions and methods are studied. Students will develop skills in administering individual and group interventions, professional communication, conflict negotiation, and advocacy. Course activities, site visits and Level I fieldwork opportunities will enable students to participate in and apply psychosocial principles to practice.

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- OTA 220 - Pediatric and Adolescent Practice** 4
Treatment of pediatric and adolescent conditions. Normal and delayed development of the infant, child and adolescent are explored. The lab component incorporates theoretical principles and provides opportunities for students to develop assessment, intervention planning and implementation, and documentation skills to address a range of childhood sensory-motor, cognitive, and psychosocial performance deficits. Students will learn to adapt the environment, tools, materials, and occupations to meet the self-care, work and play, and leisure needs of the pediatric and adolescent population. Lab activities, site visits and Level I fieldwork opportunities will enable students to participate in and apply pediatric and adolescent treatment principles to practice.
- OTA 250 - Functional Kinesiology** 2
In this course, students use and apply their knowledge of anatomy and physiology to study muscle groups and their function relative to performing various activities. Analysis of functional movement patterns required for work, self-care, play, and leisure activities is emphasized. Manual muscle testing, range of motion, goniometry, and basic transfer skills are practiced. Principles of energy conservation, joint protection and work simplification are presented. Prevention, health maintenance and safety procedures relevant to functional mobility are reviewed.
- OTA 255 - Physical Disabilities Practice** 4
Course provides in-depth opportunities for students to develop assessment, intervention planning, intervention, and documentation skills to address a wide range of adult and geriatric physical disabilities and conditions typically treated by occupational therapy and occupational therapy assistants. Topics include but are not limited to stroke, spinal cord injury, fractures and joint replacements, head injury, and dementias. The use of splinting, orthotics, modalities, and assistive technology in treatment will also be presented. Students will learn to adapt the environment, tools, materials, and occupations to meet the self-care, work and play, and leisure needs of the adult and geriatric population. Lab activities, site visits and Level I fieldwork opportunities will enable students to participate in and apply physical disabilities treatment principles to practice.
- OTA 260 - Community Practice** 3
Class activities, site visits and Level I fieldwork opportunities will enable students to participate in and apply occupational therapy assessment and intervention principles to a wide range of community settings including vocational, vocational rehabilitation, home health, and emerging community practice areas. Emphasis will be on community settings in the students' state and geographic region. The course also provides a broad exposure to the social, political, legislative, economic, and cultural factors that influence service delivery.
- OTA 265 - Ethics, Management and Leadership** 3
Course focuses on the occupational therapy assistant's role in managing and directing occupational therapy services. It covers ethical provision of services, departmental operations, program development, supervisory requirements, personnel development and supervision, professional team building, quality assurance, compliance with regulations, reimbursement, and national and state credentialing requirements. Techniques for developing a resume and job interview skills are practiced. The importance and responsibility for ongoing occupational therapy assistant professional development, ethical practice, contributions to research and evidence-based practice, attention to emerging practice issues and areas, and international perspectives are explored.
- OTA 270 - Professional Skills** 3
Course is designed to foster practical professional skills in critical thinking, using literature to make evidence-based practice decisions and recommendations and to use theory to guide practice. Practical skills needed for assessment, goal planning, intervention planning, documentation, discharge planning, other professional written and verbal communication skills, as well as therapeutic use of self, consumer and professional advocacy, and ethics in daily practice will be emphasized.
- OTA 290 - Level II Fieldwork A** 8
Full-time clinical fieldwork experience in mental health, physical disabilities, geriatric, pediatric and/or community-based practice working under the supervision of an OTR and/or COTA. Focus is on achieving entry-level competence in planning and implementing interventions. Requires 40 hours per week for eight weeks. Level II Fieldwork A must be completed within 12 months following completion of academic coursework. All academic and fieldwork courses must be completed prior to graduation. This is a pass/fail course.
- OTA 295 - Level II Fieldwork B** 8
Full-time clinical fieldwork experience in mental health, physical disabilities, geriatric, pediatric and/or community-based practice working under the

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supervision of an OTR and/or COTA. Focus is on achieving entry-level competence in planning and implementing interventions. Requires 40 hours per week for eight weeks in an area of clinical practice that is different from Level II Fieldwork A. Level II Fieldwork B must be completed within 12 months following completion of academic coursework. All academic and fieldwork courses must be completed prior to graduation. This is a pass/fail course.

Physical Education-Activity

PEAC 124 - Varsity Basketball – Men 1
Prerequisite: Consent of athletic director. Participation in the men's varsity basketball program.

PEAC 125 - Varsity Basketball – Women 1
Prerequisite: Consent of athletic director. Participation in the women's varsity basketball program.

Philosophy

PHIL 101 - Introduction to Philosophy 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the history, persons and perspectives related to the theory of the nature, methods and limits of knowledge. Students will be challenged to deal with concepts such as reality, truth, ethics, reason, and metaphysics.

PHIL 102 – Ethics 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introductory examination of the foundations of moral discourse and ethical study (that is, how to do ethics and how not to do ethics). Provides a summary introduction to a number of ethical theories. Includes discussion of contemporary moral issues and the ethical theories that shine light on them. Students will develop valuable skills of critical thinking and articulate expression while learning to recognize and more effectively address difficult moral issues that arise in today's society.

PHIL 104 - Living Religions 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Conveys a basic knowledge of and appreciation for the living religions of the world by examining the history, belief and practices of the world's five major religions. Study will focus on Buddhism, Hinduism, Islam, Judaism, and Christianity.

Pharmacy Technology

PHRM 105 - Pharmacy Technician I 3
Prerequisite: Basic computer skills. Introduction to the fundamentals and knowledge necessary to take the Pharmacy Technician Certification Board (PTCB) exam. Contents of this course include a brief history of pharmacy and how it has evolved to today's pharmacy, drug regulation and control, pharmaceutical terminology, factors that make up a prescription, pharmaceutical calculations, and different routes and formulations of various medications.

PHRM 107 - Pharmacy Technician II 3
Prerequisites: PHRM 105 with a grade of C or higher and basic computer skills. Course will provide additional necessary knowledge needed for the Pharmacy Technician Certification Board (PTCB) exam. Contents of this course include compounding, biopharmaceutics and other factors affecting drug activity, utilizing appropriate resources, inventory management, and financial issues. Course will also go further in depth to the different areas of pharmacy where a pharmacy technician is needed.

PHRM 109 - Pharmacology for Pharmacy Technicians 3
Course introduces basic pharmacological principles needed by pharmacy technicians, including basic understanding of the drug action, how antagonists and agonists work, the significance and meaning of blood concentration-time profiles, and other aspects of pharmacology suited for pharmacy technicians.

PHRM 111 - Practicum for Pharmacy Technicians 3
Prerequisites: PHRM 105 and PHRM 107 with grades of C or higher and basic computer skills. Course provides a study of and an introduction to the pharmacy in providing patient care. There will be an opportunity for students to observe activities in a pharmacy setting of their choice. There will be practical, general workplace training supported by an individualized learning plan developed by the employer, college and student.

PHRM 115 - Pharmacology Certification 3
Course will cover the nationally accredited and state-licensed program and prepare students for the Pharmacy Technician Certification Board (PTCB) exam to achieve their Certified Pharmacy Technician (CPhT) designation.

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Physical Science

PHYS 103 - Introduction to Physical Science 3

Prerequisites: ENGL 070 and MATH 064 with grades of C or higher or equivalent placement scores. Introduction to physical science that includes the basic concepts of chemistry, physics and astronomy. Not open to students with college credit in PHYS 105 or higher level course.

PHYS 105 - College Physics I with Lab 5

Prerequisite: MATH 112 with a grade of C or higher or equivalent placement score. An introduction to the fundamental ideas of physics. Topics include mechanics, wave motion and heat. (4 lecture, 1 lab)

PHYS 106 - College Physics II with Lab 3

Prerequisite: PHYS 105 with a grade of C or higher. Continuation of PHYS 105. Covers electricity, magnetism, optics, and modern physics. (2 lecture, 1 lab)

PHYS 118 - General Physics I with Lab 5

Prerequisite: MATH 130 with a grade of C or higher. Corequisite: MATH 131. An introduction to the fundamental ideas of physics. Topics include mechanics, oscillatory motion and thermodynamics. First course in calculus-based physics for the science and engineering student. (4 lecture, 1 lab)

PHYS 119 - General Physics II with Lab 5

Prerequisite: PHYS 118 with a grade of C or higher. Continuation of PHYS 118. Topics in the field of electromagnetism will be covered. (4 lecture, 1 lab)

PHYS 125 - Technical Science 4

Corequisite: MATH 108 or MATH 112 with a grade of C or higher or equivalent placement score. Designed to help students develop a better understanding of physics as it applies to the operation of machinery. Topics include measurement, applied geometry, mechanics, fluids, waves, simple machine, energy and power, heat and temperature, electricity, and magnetism.

PHYS 180 - Problems in Physics 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in physics under the supervision of a science instructor.

PHYS 203 - Statics 3

Prerequisite: PHYS 118 with a grade of C or higher. Application of the principles of mechanics to engineering problems of equilibrium. Topics include resultants, equilibrium, friction, trusses, center of gravity, and moment of inertia.

Political Science

POLS 101 - American/National Government 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Survey course of the American government and political systems. Particular attention is given to the government's origins, politics, the branches of government, and policy making. The Missouri Constitution is included to meet the requirements of Senate Bill No. 4.

POLS 102 - Missouri Constitution .5

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Designed to meet requirements of Senate Bill No. 4. Intended for students testing out of history or government courses or transferring these courses from another state. Course is available on an individual basis. This is a pass/fail course.

POLS 103 - Introduction to Political Science 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Study of the nature of government, politics, the state, relations among nations, and the areas of political science. Students will make a preliminary examination of governmental institutions and selected political theories with an emphasis on basic principles, concepts and characteristics of governments around the world. Does not meet requirements of Senate Bill No. 4.

POLS 175 - Political Science Internship 4

Prerequisite: Consent of instructor. On-the-job work experience provides an opportunity for the student to work in a state government office.

POLS 180 - Problems in Political Science 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in political science under the supervision of a political science instructor.

Physical Education-Professional

PPRO 101 - Sports Officiating I 2

Includes lectures, readings, class discussions, and field experience in the officiating of fall sports, including football, soccer, basketball, etc.

PPRO 102 - Sports Officiating II 2

Includes lectures, readings, class discussions, and field experience in the officiating of spring sports, including softball, baseball, volleyball, etc.

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PPRO 104 - Care and Prevention of Athletic Injuries 3
Introduction to athletic training and its administrative procedures and problems. Includes prevention and care of injuries and other special considerations.

PPRO 108 - Philosophy of Sports 2
Study of motivation, skill and physical learning behaviors in physical education and athletics. Special problems of coaching athletics, specifically dealing with motivational, mental and behavioral problems.

PPRO 180 - Problems in Professional PE 1 to 3
Prerequisite: Consent of instructor. Independent study of a special problem in professional physical education under the supervision of a physical education instructor.

Psychology

PSY 101 - General Psychology 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the scientific study of behavior and mental processes. Includes a survey of historical and current theories, theorists and perspectives in psychology. Goals include increasing critical thinking and intellectual curiosity about psychological phenomenon and providing a basis for further study in the field. Topics include neurology, sensation and perception, consciousness, learning, psychometrics, personality development, and mental illness and wellness.

PSY 102 - Child Psychology 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Investigation into the interaction of biological and environmental factors affecting the physiological, intellectual and emotional development of the child from conception through adolescence.

PSY 104 - Psychology of Personal Adjustment 3
Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Overview of the major theories, concepts and principles in psychology that can be applied to personal and social adjustment. Topics include self-esteem, motivation, stress management, and others.

PSY 180 - Problems in Psychology 1 to 3
Prerequisites: PSY 101 with a grade of C or higher and consent of instructor. Writing papers in APA format is required. Students are advised to have completed ENGL 101 prior to enrolling. Independent study of a special problem in psychology under the supervision of a psychology instructor.

PSY 210 - Lifespan Development 3
Prerequisite: PSY 101 with a grade of C or higher. Writing papers in APA format is required. Students are advised to have completed ENGL 101 prior to enrolling. Study of major theories of psychological development during infancy, childhood, adolescence, and adulthood. Topics include physical, psychosocial and cognitive development across the lifespan giving consideration to cultural and individual variations.

PSY 220 - Abnormal Psychology 3
Prerequisite: PSY 101 with a grade of C or higher. Fall semester only. Writing papers in APA format is required. Students are advised to have completed ENGL 101 prior to enrolling. Study of the historical and cultural context of abnormal behavior and diagnosis of mental disorders. Topics include a survey of the causes and treatment of major mental illness such as mood disorders, anxiety disorders, substance abuse, schizophrenia, and personality disorders.

Radiologic Technology

RAD 100 - Radiologic Technology Prep Workshop .5
Prerequisite: Consent of instructor. Applicants who meet minimum eligibility requirements upon application to the Radiologic Technology program will be invited to the workshop. If invited, the applicant must attend the workshop to be considered for the Radiologic Technology program. The workshop will inform potential students of all aspects of the program and review program requirements. A test is administered to evaluate critical-thinking skills. Students will be invited to the workshop as a part of the application process; it is not a course in which a student can enroll. This is a pass/fail course.

RAD 102 - Orientation to Radiologic Technology 2
Overview of the foundations in radiologic technology and the practitioner's role in the health care delivery system. Students prepare to become active members of the health care delivery system and also gain an appreciation for the professional organizations and their functions.

RAD 106 - Clinical Education I 3
 Radiology students will complete between 1200 and 1300 clinical contact hours over the course of the program to ensure clinical competence. To assist students in complying with financial aid guidelines, the clinical credit hours have been equally assigned to the five program clinical education courses. Over the life of the program, this equates to approximately 80 contact hours per one college credit hour. Supervised clinical rotations will be performed at assigned clinical sites. Clinical education provides the student with the opportunity to practice the skills and theory taught in the classroom. The "Five Steps to Clinical Competency" allow the student to progress in competency exams, while practicing patient care and professionalism. Exam performance, professionalism skills and critical thinking will be evaluated in this course. As clinical education progresses throughout the program, the student will move from basic to more advanced rotations at the clinical site.

RAD 108 - Clinical Education II 3
 Radiology students will complete between 1200 and 1300 clinical contact hours over the course of the program to ensure clinical competence. To assist students in complying with financial aid guidelines, the clinical credit hours have been equally assigned to the five program clinical education courses. Over the life of the program, this equates to approximately 80 contact hours per one college credit hour. Supervised clinical rotations will be performed at assigned clinical sites. Clinical education provides the student with the opportunity to practice the skills and theory taught in the classroom. The "Five Steps to Clinical Competency" allow the student to progress in competency exams, while practicing patient care and professionalism. Exam performance, professionalism skills and critical thinking will be evaluated in this course. As clinical education progresses throughout the program, the student will move from basic to more advanced rotations at the clinical site.

RAD 110 - Clinical Education III 3
 Radiology students will complete between 1200 and 1300 clinical contact hours over the course of the program to ensure clinical competence. To assist students in complying with financial aid guidelines, the clinical credit hours have been equally assigned to the five program clinical education courses. Over the life of the program, this equates to approximately 80 contact hours per one college credit hour. Supervised clinical rotations will be performed at assigned clinical

sites. Clinical education provides the student with the opportunity to practice the skills and theory taught in the classroom. The "Five Steps to Clinical Competency" allow the student to progress in competency exams, while practicing patient care and professionalism. Exam performance, professionalism skills and critical thinking will be evaluated in this course. As clinical education progresses throughout the program, the student will move from basic to more advanced rotations at the clinical site.

RAD 112 - Clinical Education IV 3
 Radiology students will complete between 1200 and 1300 clinical contact hours over the course of the program to ensure clinical competence. To assist students in complying with financial aid guidelines, the clinical credit hours have been equally assigned to the five program clinical education courses. Over the life of the program, this equates to approximately 80 contact hours per one college credit hour. Supervised clinical rotations will be performed at assigned clinical sites. Clinical education provides the student with the opportunity to practice the skills and theory taught in the classroom. The "Five Steps to Clinical Competency" allow the student to progress in competency exams, while practicing patient care and professionalism. Exam performance, professionalism skills and critical thinking will be evaluated in this course. As clinical education progresses throughout the program, the student will move from basic to more advanced rotations at the clinical site.

RAD 114 - Clinical Education V 3
 Radiology students will complete between 1200 and 1300 clinical contact hours over the course of the program to ensure clinical competence. To assist students in complying with financial aid guidelines, the clinical credit hours have been equally assigned to the five program clinical education courses. Over the life of the program, this equates to approximately 80 contact hours per one college credit hour. Supervised clinical rotations will be performed at assigned clinical sites. Clinical education provides the student with the opportunity to practice the skills and theory taught in the classroom. The "Five Steps to Clinical Competency" allow the student to progress in competency exams, while practicing patient care and professionalism. Exam performance, professionalism skills and critical thinking will be evaluated in this course. As clinical education progresses throughout the program, the student will move from basic to more advanced rotations at the clinical site.

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- RAD 120 - Radiographic Procedures I** 3
Students will learn and practice the proper steps in the completion of radiographic exams. Radiographic anatomy, radiation protection and patient care skills are reinforced. Students are introduced to basic film critique. Course will cover exams of the chest, abdomen and extremities. Course is a portion of the five steps to clinical competency and must be completed with a score of 85 percent or better. (1 lecture, 2 lab)
- RAD 122 - Radiographic Procedures II** 3
Students will learn and practice the proper steps in the completion of radiographic exams. Radiographic anatomy, radiation protection and patient care skills are reinforced. Students are introduced to basic film critique. Course will cover exams of the thorax and spine, as well as contrast studies. Course is a portion of the five steps to clinical competency and must be completed with a score of 85 percent or better. (1 lecture, 2 lab)
- RAD 124 - Radiographic Procedures III** 3
Students will learn and practice the proper steps in the completion of radiographic exams. Radiographic anatomy, radiation protection, and patient care skills are reinforced. Students are introduced to basic film critique. Course will cover exams of the skull and facial bones. Course is a portion of the five steps to clinical competency and must be completed with a score of 85 percent or better. (2 lecture, 1 lab)
- RAD 128 - Patient Care** 3
Introduces knowledge and skills to effectively monitor, assess and care for patients in the diagnostic imaging environment. Instruction will focus on the basic concepts of routine and emergency patient care procedures, infection control, standard precautions, and the legal and ethical aspects of professional radiologic technology.
- RAD 130 - Radiation Production and Characteristics** 3
An overview of electricity, electromagnetic theory, circuitry, x-ray generation, production, interaction, and the basic characteristics of natural radiation.
- RAD 134 - Radiographic Exposures and Quality Control** 3
Introduction to factors involved in quality image production, the correlation of these factors and their control. Overview of image receptors, scatter control and radiographic exposure techniques is provided. Students will identify and evaluate acceptable limits for equipment operation.
- RAD 136 - Radiation Protection** 2
Student radiologic technologists must be able to protect patients and themselves from overexposure to radiation. Students learn about dose limits for radiation workers, proper shielding for patients and exam rooms, as well as radiation monitors and detectors.
- RAD 140 - Radiologic Pharmacology** 3
Overview of the foundations of pharmacology, including pharmacokinetics, pharmacodynamics, pertinent laws, and safety issues. Students will gain an understanding of drug categories, their actions, and commonly used drugs in each category. Additionally, this course will emphasize contrast media commonly used in medical imaging, routes of administration and venipuncture techniques.
- RAD 142 - Trauma and Advanced Imaging** 3
Builds on the positioning knowledge developed in the radiographic procedures courses. Advanced imaging techniques and approaches for imaging injured patients will be discussed. Radiographic anatomy, radiation protection and patient care skills will continue to be stressed. This course is a portion of the five steps to clinical competency and must be completed with a score of 85 percent or better. (2 lecture, 1 lab)
- RAD 144 - Radiation Biology** 2
Reinforcement of the varieties of interactions between ionizing radiation and living cells. Acute and chronic effects of radiation are described.
- RAD 146 - Imaging Equipment** 3
Presents information about image intensified fluoroscopy, mobile equipment and automatic exposure devices. Image acquisition utilizing film/screen, CR and DR systems and the appropriate processing units will be discussed.
- RAD 150 - Radiographic Pathology** 3
Provides a basic understanding of disease processes as they relate to radiographic procedures. Course will include facts, etiology, symptoms, treatments, and radiographic appearance of many diseases and discussion of how one must adjust the radiographic technique for each of these disorders.
- RAD 152 - Image Analysis** 3
Utilizes knowledge of anatomy, positioning and exposure factors to critique radiographs and determine if radiographs are of proper diagnostic quality. After a judgment is made, the student must determine which factors require change, how to accomplish the change, and why a change is necessary.

SECTION 3 / COURSE DESCRIPTIONS

RAD 154 - Sectional Anatomy	3	RAD 180 - Problems in Radiologic Technology	1 to 3
Apply knowledge of systemic human anatomy to determine the sectional relationships of human organs, vessels and tissues. Knowledge of cross-sectional anatomy reinforces prior anatomical knowledge and leads to a greater understanding of modalities such as CT, MR and ultrasound.		Prerequisite: Consent of program coordinator. Independent study course designed to allow the students to more deeply research specific areas of radiologic technology that are of interest to them under the supervision of a radiologic technology instructor. They will also explore more advanced health care degrees and/or the managerial opportunities available to radiologic technologists.	
RAD 160 - CT Sectional Anatomy and Pathology	4	<hr/> Renewable Energy Technology-Biomass <hr/>	
Review sectional anatomy and common pathology conditions as they appear in CT images. Aid imaging science students in recognizing, locating, and identifying normal anatomy on various computer images. Introduce various pathological disorders that can be seen while performing CT scans on the various anatomical sections of the body.		RETB 105 - Biomass/Biofuels Energy Generation	3
RAD 162 - CT Physics and Instrumentation	3	Survey of energy generation systems that use biomass, biofuels and bioproducts, including landfill gas, for power generation. Discussion includes demand, technology issues, policy, and regulatory factors.	
Overview of the physical principles and instrumentation associated with computed tomography. Topics include methods of data acquisition and manipulation, CT systems and operations, and image processing and display. Quality management and artifact recognition will also be discussed.		RETB 110 - Power Plant Systems	3
RAD 164 - CT Imaging Procedures	3	Overview of power plant operations, function and terminology. Provides an understanding of the similarities and differences between conventional power plants and renewable energy power plants. Topics include fuels, boilers, turbines, feedwater heaters, ash removal, condensate, controls, instrumentation, carbon emissions, and monitoring.	
Overview of scanning techniques related to the central nervous system, neck, thorax, abdomen and pelvis, vascular (CTA), spine, and musculoskeletal regions. Anatomy, positioning criteria and various protocols will be studied.		RETB 115 - Plant Boilers and Operations	4
RAD 166 - CT Clinical Education	6	Prerequisites: MATH 108 and RETB 110 with grades of C or higher. Introduction to boiler operations and types of boilers including those fired with renewable fuels, startup and shutdown procedures, monitoring systems, and emergency procedures. Examines the steam cycle in a steam generation plant, auxiliary equipment and maintenance requirements. Includes power plant simulator exercises.	
Clinical education provides the student with the opportunity to practice the skills and theory taught in the classroom. Students will demonstrate CT exam competency, while practicing patient care and professionalism. Exam performance, professionalism skills and critical thinking will be evaluated in this course.		RETB 120 - Turbines and Generators	3
RAD 168 - CT Registry Review	3	Prerequisite: RETB 110 with a grade of C or higher. Examination of operation of power turbines, basic turbine components and turbine driven generators. Discussion includes fuel requirements, maintenance requirements, engine controls, and emergency procedures.	
Course provides a comprehensive review of CT in preparation for the National Certification Examination. Numerous simulated registry examinations will be administered during the course.		RETB 125 - Power Plant Chemistry with Lab	5
RAD 170 - Preparing for Professionalism	3	Prerequisite: RETB 115 with a grade of C or higher. Introduction of wastewater treatment, environmental protection systems, and chemistry unique to renewable energy power systems. Topics include treatment systems, demineralization, pollutants, wastewater, waste treatments, and recovery systems. (4 lecture, 1 lab)	
A series of review assessments are administered, enabling students to identify their strengths and weaknesses. Students will prepare for employment through the development of a letter of intent, a resume, and a thank you letter. Employment skills are researched and discussed.			

RETB 175 - Biomass Generation Internship 8
 Prerequisites: Completion of 30 technical credit hours and consent of program coordinator. Application of work skills in a supervised work environment. Sponsoring companies provide the supervision. The college provides general guidance and works with the sponsoring company in developing an outline of the work experiences unique to the site. Designed to be an opportunity to demonstrate work skills, work ethics and the ability to work with others. Requires completion of training plan and submission of four to eight written technical reports.

Renewable Energy Technology-Solar

RETS 102 - Introduction to Renewable Energy 3
 Prerequisite: ENGL 060 with a grade of C or higher or equivalent placement scores. Introduces concepts of renewable energy and gives an overview of the associated technology. Outlines the basic principles of energy production from solar, wind and biomass systems and applications in both urban and rural environments. Emphasis is on how renewable energy technologies work and their practical use.

RETS 106 - Introduction to Solar PV Systems 1
 Overview of different types of solar energy technologies, how PV systems compare to other systems, and the advantages and disadvantages of installing a PV system. Also discussed are the differences between solar power and solar energy and why this is important in solar installations. Evaluation of factors affecting the sun's apparent position and how solar radiation and climate data are used in sizing and estimating performance for PV systems.

RETS 110 - Solar PV Site Planning 2
 Prerequisite: IEM 102 and RETS 106 with grades of C or higher. Overview of process of determining potential array locations and factors that must be considered and discussed with customers. Examine purposes and functions of components of PV systems and what various energy sources can be interfaced with PV systems. Construction and features of PV modules, current-voltage characteristics and parameters, and how a PV device converts light to electricity are also covered.

RETS 114 - Solar PV System Design 3
 Prerequisites: MATH 108 and RETS 110 with grades of C or higher. Determine the system energy and power requirements from a load analysis, and how to calculate the critical design parameters based on monthly load and insulation information. Key considerations for

integrating arrays on buildings and other structures and how to differentiate between the various types of mounting configurations and their features. Knowledge of electrical codes, regulations and practices applicable to PV systems. Calculate voltage and current limits and how to determine appropriate conductor ampacities and overcurrent protection ratings for various circuits.

RETS 118 - Solar PV Balance of Systems 2
 Prerequisite: RETS 110 with a grade of C or higher. Identify major battery components, functions, discharging and charging characteristics, and differentiate between types and classifications of batteries. Functions and features of charge controllers and charge controller applications and installation will be covered. Identify basic waveform types and properties and what types are used in PV systems.

RETS 122 - Solar PV Utility Interconnection 1
 Prerequisite: RETS 114 with a grade of C or higher. Identify applicable codes and standards for utility interconnection, how PV systems affect utility operations, and how to differentiate between load-side and supply-side interconnections. Learn the common requirements for permit applications and applicable articles of the NEC for both general electric system requirements and PV-specific requirements.

RETS 126 - Solar PV Instrumentation and Metrology 4
 Prerequisite: RETS 110 with a grade of C or higher. Instrumentation and measurement tools, techniques and methods used in renewable energy production systems. Types of measurements will include electrical, optical, thermal, physical, chemical, structural, and mechanical. Hands-on training to demonstrate proficiency with various techniques and devices.

RETS 130 - Practical Solar PV Experience 4
 Prerequisite: RETS 122 with a grade of C or higher. Combination of study and hands-on practical applications of the NEC 2008 codes in PV systems, NABCEP certification studies, OSHA training, and practical inspection experience. (3 lecture, 1 lab)

RETS 134 - Solar PV Commissioning 2
 Prerequisite: RETS 130 with a grade of C or higher. Examine steps for commissioning new PV systems, maximizing array output battery health and other operations, troubleshooting PV systems, and developing a maintenance plan based on system configurations, installation and location. Discussed are incentive options, calculating present and future costs, and making a comparison of energy-production systems based on total life-cycle costs.

SECTION 3 / COURSE DESCRIPTIONS

RETS 175 - Solar PV Internship 8

Prerequisites: Completion of 30 technical credit hours and consent of program coordinator. Application of work skills in a supervised work environment. Companies that sponsor internships provide the supervision. The college provides general guidance and works with the sponsoring company in developing an outline of the work experiences unique to the site. Designed to provide an opportunity to demonstrate work skills, work ethics and the ability to work with others. In addition to completing the training plan, the student must submit four to eight written technical reports.

Renewable Energy Technology-Wind

RETW 102 - Introduction to Wind Energy 2

Provides an understanding of the various wind energy systems, their applications, and the development of the wind industry - past, present and future. Also addressed are the various types of wind turbines and their applications and environmental and economic issues related to wind energy production.

RETW 106 - Wind Energy Project Operations 2

Introduction to industry operations, maintenance and safety standards associated with wind turbine operations. Includes daily operations, reporting and documentation requirements, and use of monitoring systems. Field trips to operational facilities are included.

RETW 110 - Wind Turbine Mechanical Systems 3

Prerequisites: IEM 102 and MATH 108 with grades of C or higher. Provides a detailed look into the mechanical and electrical parts of the wind turbine. Examination of the internal operations of a wind turbine to include gearboxes and other mechanical and electrical systems involved in transferring wind power into electricity generation.

RETW 114 - Wind Power Generation and Transmission 3

Prerequisite: RETW 110 with a grade of C or higher. Introduction to electrical generation and the interconnection of this electricity to high voltage transmission systems.

RETW 118 - Wind Systems Troubleshooting and Repair 3

Prerequisites: IEM 138 and RETW 110 with grades of C or higher. Examination of troubleshooting techniques

and repairs associated with installation, maintenance and operations of wind turbines. Inspection and repair of the electro-mechanical systems and airfoil and composite repair are included.

RETW 122 - Wind Project Site Selection 2

Prerequisite: RETW 114 with a grade of C or higher. Provides the various aspects and events that apply to construction of wind energy projects, including the use of cranes and rigging. Examines methods and requirements for developing and locating projects. Environmental and economic considerations are discussed.

RETW 175 - Wind Energy Internship 4

Prerequisites: Completion of 30 technical credit hours and consent of program coordinator. Application of work skills in a supervised work environment. Sponsoring companies provide the supervision. The college provides general guidance and works with the sponsoring company in developing an outline of the work experiences unique to the site. Designed to be an opportunity to demonstrate work skills, work ethics and the ability to work with others. Requires completion of training plan and submission of four to eight written technical reports.

Service Education

SRVE 102 - Emerging Leaders 1

Prerequisite: Consent of instructor. Fall semester only. Introduction to leadership philosophy including leadership styles and ethics as they apply to the campus and the community. A 20-hour service learning component and participation in a fundraising activity are required. This is a pass/fail course.

SRVE 104 - Service Learning and Leadership 3

Prerequisite: Consent of instructor. Spring semester only. Various leadership themes and principles are examined as students complete service hours and learning activities in community, campus and urban settings.

SRVE 180 - Problems in Service Learning and Leadership 3

Prerequisites: SRVE 102 and consent of instructor. Spring semester only. Independent study of a special problem relating to Service Learning and Leadership under the supervision of an instructor in a related discipline.

SECTION 3 / COURSE DESCRIPTIONS

Sociology

SOC 100 - General Sociology 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Introduction to the basic principles, concepts, research strategies, and empirical findings representative of the field today. Explores the relationships of individuals and groups in the context of broader social patterns. Establishes a basis for further study in the field. Course topics may include gender and racial inequality, deviance, economic and political institutions, social mobility, and concepts related to current social and cultural change.

SOC 101 - Social Problems 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Examines objective social conditions that have been defined as social problems. Focuses on gaining factual and theoretical knowledge to build better explanations for the existence and persistence of social problems in light of social controls and democratic values. Explores options for solutions to specific social problems. Topics include racial inequality, gender stratification, poverty, mass media, education, and others.

SOC 102 - Marriage and Family 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Explores the social and historical roots of marriage as both a social institution and an intimate relationship. Examines the sources of and the challenges created by the diversity of family forms. Topics include intimacy, gender, dating and courtship, conflict and communication, divorce, and parenting.

SOC 103 - Introduction to Social Work 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Provides background knowledge of the field, an overview of social problems and social services, and methods of social work practice. Topics may include poverty, substance abuse, mental illness, crime, family, education, racism, sexism, and others. Each topic is discussed with an interest in identifying the opportunities for and challenges to effective social work.

SOC 120 - American Diversity 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Overview of global and American diversity resulting from cultural interactions, especially in the areas of art, government, economics, and religion, as well as a historical perspective. Students

will gain a greater understanding of diversity from an individual and community perspective.

SOC 180 - Problems in Sociology 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in sociology under the supervision of a sociology instructor.

Spanish

SPAN 101 - Elementary Spanish I 3

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Begins the four basic skills of language communication: listening, speaking, reading, and writing. Includes an introduction to the Spanish culture. Concentrates on the present indicative tense with the course conducted primarily in Spanish.

SPAN 102 - Elementary Spanish II 3

Prerequisite: SPAN 101. Concentrates on the preterit and imperfect tenses and reflexive constructions for students to further enhance their ability to listen, speak, read, and write. Course is conducted primarily in Spanish.

SPAN 120 - Spanish for the Medical Profession 3

Prerequisite: HEOC 120. Beginning course for students with no background in Spanish. Concentration on terminology and phraseology for personnel in allied health professions. Students will be able to engage in basic Spanish conversation related to their current or future vocations.

Speech and Theatre

SPTH 101 - Public Speaking 3

Study and practice of basic techniques involved in generating, designing, delivering, and evaluating ideas for speech situations facing adults of our society.

SPTH 103 - Small Group Communication 3

Presents the communication process as it relates to small group behavior, including the study of principles, methods and forms of discussion used in small groups.

SPTH 105 - Interpersonal Communication 3

Presents theories, principles and techniques of communication as they apply to one-to-one, small groups and conference interaction.

SPTH 107 - Introduction to Theatre 3

Introductory hands-on course where students examine the major contributors to the theatrical event: the director, actor, scene designer, and lighting designer.

SECTION 3 / COURSE DESCRIPTIONS

SPTH 110 - Stagecraft and Lighting 3

Basics of set construction, painting, scene design, lighting design, and wood shop safety. Students will be required to spend 30 clock hours outside classroom time with direct involvement in operation of specialized theatre equipment. Required course for speech and theatre majors and minors.

SPTH 111 - Acting I 3

Intensive study of the techniques of acting with concentration on bodily movement, balance, diction, voice, and characterization.

SPTH 113 - Basic Oral Interpretation 3

Includes development of the voice as an instrument of expression and analysis and performance of basic interpretive material and forms of literature.

SPTH 115 - Theatre Practicum 1 to 2

Includes student participation in plays, either in performance or backstage work. No more than four credit hours of Theatre Practicum may be applied toward an Associate of Arts degree.

SPTH 119 - Stage Makeup 3

Provides a hands-on look at stage makeup. Students will learn the basics of corrective, old age and effects makeup and what is required in creating a character.

SPTH 120 - Stage Voice 3

Designed to improve and enhance the skills necessary for excellent stage vocal production. Instruction includes ways to control and relax the breath, the main source of vocal excellence. Course will emphasize increasing breath release as it relates to vocal support and vocal flexibility in regard to musical range and emotional expression.

SPTH 122 - Costume Construction 3

Course intends to introduce the student to the field of costume technology through the practical experience in the execution of theatrical costume techniques, basic sewing skills and costume crew.

SPTH 125 - Theatre History 3

Introductory examination of theatre as a living and viable artistic medium. Course examines the historical development of the audience; dramatic literature and structure; and the role of the actors, directors, designers, and technicians.

SPTH 180 - Problems in Speech or Theatre 1 to 3

Prerequisite: Consent of instructor. Independent study of a special problem in speech or theatre under the supervision of a fine arts instructor.

Student Success

SS 100 - New Student Orientation .5

Prerequisite: Consent of instructor. Designed to provide interactions with other students, staff and faculty that will help students get a sense of the campus culture and how to conduct business with the college. Emphasis upon assisting new students with understanding how to use the different online elements. This is a pass/fail course.

SS 104 - College Skills 3

Designed to enhance the college learning experience and prepare students for personal and professional success. Concepts presented include time management, managing change, setting and achieving goals, and thinking in ways to create success. Note taking, library research, test taking, and study skills are also included. This course will include an eight-hour service learning project.

SS 108 - Career Choice 1

Designed to guide students who may be undecided about a college major or related career plans. Emphasis upon making connections between self and the world of work and between academic and career planning.

SS 114 - Computer Skills for College 2

Designed to build a foundation of basic computer skills necessary to be successful within an educational setting. Topics include basic computer functions and functional navigation and practical application of Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Internet, email, mySTAR, SFCC Online and Elluminate.

SS 120 - Employment Strategies 1

Prerequisite: ENGL 070 with a grade of C or higher or equivalent placement scores. Designed to help students develop employment search skills and career growth potential.

TRiO Skills

TSKL 101 - TRiO Skills I 1

Prerequisite: Consent of TRiO STEPS advisor. Designed to assist incoming freshmen with basic skills needed to orient them to college and necessary for academic success. Emphasis upon basic computer skills, study skills, research skills, critical thinking skills, financial management skills, life skills, confidence building, and career exploration. Course is restricted to students who have been officially accepted into the TRiO STEPS program at SFCC.

SECTION 3 / COURSE DESCRIPTIONS

- TSKL 102 - TRiO Skills II** 1
Prerequisite: Consent of TRiO STEPS advisor.
Continuation of TSKL 101. Aimed at assisting TRiO STEPS students who have completed basic skills courses and have moved on to college-level courses. Topics include study skills, research skills, critical thinking skills, financial management skills, time management, life skills, confidence building, and career exploration. Course is restricted to students who have been officially accepted into the TRiO STEPS program at SFCC.
- TSKL 103 - TRiO Skills III** 1
Prerequisite: Consent of TRiO STEPS advisor.
Continuation of TSKL 102. This TRiO STEPS course will focus on life skills and personal enrichment. Covers topics such as fiscal management, job skills, resume writing, maintaining physical and emotional health, conflict resolution, and stress management. Course is restricted to students who have been officially accepted into the TRiO STEPS program at SFCC.
- TSKL 104 - TRiO Skills IV** 1
Prerequisite: Consent of TRiO STEPS advisor. Designed to assist students who are participants in the TRiO STEPS program who are in their final year at SFCC to complete the activities required for graduation and to assist them in transferring to the four-year college of their choice. Students in this course will be assisted in completing applications to four-year colleges and in applying for scholarships and financial aid at their transfer institutions. Students will also be assisted in planning financially for completing their baccalaureate degrees, including calculations of manageable student debt load. Campus visits to four-year colleges are provided free of charge to students in the STEPS program. Course is restricted to students who have been officially accepted into the TRiO STEPS program at SFCC.
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- Web Development**
- WEB 112 - Web Utilities** 1
Students will discover the increased functionality and flexibility of creating effective Web content. The fundamental utilities of creative Web pages will be presented. Course will explore the vast areas of Web programming. Attention will be given to concepts most commonly encountered when using utility software.
- WEB 113 - Web Design** 1
Comprehensive look at the basic tools used for creating successful and practical Web pages through the use of
- Web design tools. Course is the foundation for Web page design. Course presents knowledge of Web design to prepare students for other courses and the job market. No previous knowledge of HTML or Web design is needed.
- WEB 114 - Web Scripting** 3
The use and implementation of client-side scripting languages to create interactive Web-based applications. Content will include using JavaScript, VBScript and other scripting languages as appropriate for creating dynamic Web applications.
- WEB 115 - Introduction to Mobile Applications** 1
Course will introduce students to the Web technologies and provide experience creating Web applications. Students will learn all the steps needed to take an app idea from concept to development.
- WEB 116 - Web Development** 3
Provides enhanced instruction in the concepts, issues and techniques related to designing, developing and deploying websites. Instruction includes, but is not limited to, learning about HTML, HTML5, basic JavaScript, XML, importing external videos, and Cascading Style Sheets (CSS). The use of learning how to create sites both manually and through the use of website development software will be taught.
- WEB 117 - Advanced Web Development** 3
Prerequisite: WEB 116 with a grade of C or higher.
Course gives instruction in the creation of dynamic Web pages through a variety of formats. These methods may include, but are not limited to, PHP, MySQL, ASP, XML, ColdFusion, and FTP.
- WEB 118 - Web Graphics** 3
Course provides extensive instruction into the creation and manipulation of graphics files through the software package Adobe Photoshop. Course is aimed at the Photoshop beginner who wants to create sophisticated graphics while having fun. Subjects covered include an overview of the Photoshop screen, the toolbox, palettes, and the option bar. Special emphasis on text, layers and photo treatment and design will also be discussed.
- WEB 120 - XML** 3
Instruction includes learning to use and implement XML standards in Web page creation. XML is a language for storing and delivering information on the Web. Basic concepts of XML along with delivery methods for developing dynamic HTML documents that maximize the use of browser capabilities will be taught.

SECTION 3 / COURSE DESCRIPTIONS

WEB 125 - Introduction to Digital Video 1	WELD 102 - Structural Welding 4
This is the first in a series of three video design courses that will teach techniques for creating multimedia presentation videos. Instruction includes the construction of interactive DVD video presentations through the use of multiple design formats and software. A storage device such as a mass DVD will need to be purchased for the course. WEB 125 may be taken independently of WEB 126 and WEB 127.	Prerequisite: WELD 101. Basic course using the American Welding Society (AWS) D1.1 Structural Welding Code, with AWS welder qualifications included. Course includes out of position welding on plate with the shielded metal arc welding, flux core arc welding and gas metal arc welding processes. The CNC plasma arc cutting process is introduced. (1 lecture, 3 lab)
WEB 126 - Introduction to Digital Authoring 1	WELD 103 - Pipe Welding 4
Second course in the series of video design courses. Instruction will include learning the techniques for video editing, authoring, interfacing, and compression of multimedia presentations. The instruction of transferring data and information into a DVD format will be included. WEB 126 may be taken independently of WEB 125 and WEB 127.	Prerequisite: WELD 102. Advanced technical welding course utilizing the American Society of Mechanical Engineers Section (ASME) 9 code for pipe welding with ASME welder qualification included. The course of study is the welding of pipe, using the shielded metal arc process in all positions. (1 lecture, 3 lab)
WEB 127 - Digital Production Methods 1	WELD 104 - TIG Welding 4
Third course in the series of video design courses. Focuses on the final stages of DVD presentation fundamentals and implementation, adding music to the final product, and pushing the media into a final format. WEB 127 may be taken independently of WEB 125 and WEB 126.	Prerequisite: WELD 102 with a grade of B or higher or WELD 103. Advanced technical welding course structured primarily for specialized welding operations requiring a high degree of skill. Students will study the use of gas tungsten arc welding of ferrous and nonferrous metals in all positions according to the applicable code. (1 lecture, 3 lab)
WEB 160 - Portfolio Design 3	WELD 105 - Advanced Pipe Welding 4
Prerequisite: WEB 113. Corequisite: WEB 113. Instruction in designing a professional, informative and effective DVD portfolio that highlights the experience and knowledge gained from courses taken at SFCC. Design focuses, but is not limited to, projects created in the CIS and WEB program courses. This DVD portfolio will be used for prospective employers to gain a better understanding of the student's technical skills and the subject matter learned.	Prerequisite: WELD 103. Course will utilize the GTAW (TIG) process for joining of pipe. ASME Section 9 will be the governing code with welder qualifications available for the successful student. (1 lecture, 3 lab)
WEB 175 - Web Development Internship 4	WELD 114 - Structural Layouts and Shapes 3
Prerequisite: Consent of program coordinator. Provides on-the-job work experience in Web development. Supervised and evaluated by the instructor.	Course is designed to provide students with the knowledge and skills to accurately setup various structural welding layouts. Students will learn to utilize multiple geometric instruments, fixtures, and other tools to attain and maintain strict tolerance and adhere to industry standards for the preparation and methods of structural welding.
<hr/> Welding <hr/>	
WELD 101 - Introduction to Welding 4	WELD 115 - Print Reading for Welders and Machinists 3
Basic course beginning with instruction in the technical knowledge and skills required for oxyacetylene cutting, plasma arc cutting, shielded metal arc welding, flux core arc welding, and gas metal arc welding. A minimum of two lecture hours per week will include subjects such as safety, metallurgy, welding equipment, and other technical knowledge applicable to the welding industry. (1 lecture, 3 lab)	Study of symbols, industry standards, measurement systems, terminology, and prints and diagrams associated with work performed by professional welders and machinists, including the interpretation of GD&T symbols and terminology, machine prints, welding symbols and prints, and related technologies.

SECTION 3 / COURSE DESCRIPTIONS

WELD 180 - Problems in Welding 1 to 8

Prerequisite: Consent of program coordinator.
Independent study of a special problem in welding under the supervision of a welding instructor.

Wellness

WELL 116 - Building Fitness for Life I 1

Course offers a comprehensive plan for utilizing fitness training as a means to lifetime wellness. Students explore nutritional needs, stress management and prevention of disease. Course will fulfill the wellness requirement.

WELL 117 - Building Fitness for Life II 1

Prerequisite: WELL 116. Course expands the student's knowledge and ability to develop a comprehensive plan of lifetime wellness utilizing fitness training. Course will fulfill the wellness requirement.

WELL 118 - Aerobics .5 to 1

Complete fitness program designed to combine exercise and fun. Course will fulfill the wellness requirement.

WELL 119 - Low Impact Aerobics 1 to 1.5

Fitness program designed for anyone who wants to minimize the risk of injury but still enjoy an aerobic workout. Course will fulfill the wellness requirement.

WELL 121 - Women and Health 1

Designed to provide students with the tools to improve a woman's health status. Historical trends in health care regarding women are discussed as well as methods for facilitating change. Personal choices and their effects on health and wellbeing are identified. Topics include but are not limited to, reproductive and gynecological concerns, nutrition, exercise, weight loss, bone health, women's concerns, heart disease, sexuality, and abuse. Course will fulfill the wellness requirement.

WELL 122 - Applied Wellness 1

A different type of physical education activity course that can be enjoyed by any or all students regardless of age or physical condition. Designed to provide students with theoretical and practical experiences focusing on the relationship of lifestyle to productivity and quality of life. Course will fulfill the wellness requirement.