

COURSE DESCRIPTIONS

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Table 1. Course Prefix Meanings

AC = Accounting	HC = Healthcare Management
AG = Agriculture & Natural Resources	HI = History
AH = Allied Health	HU = Humanities
AM = Automotive & Machinery Technology	IT = Information Technology
AR = Art	JN = Journalism
AT = Applied Technology	MF = Manufacturing Technology
BA = Business Administration	MT = Mathematics
BI = Biological Science	MU = Music
BT = Business Technology	NR = Nursing
CD = Child Development	PE = Physical Education
CH = Chemistry	PH = Philosophy
CJ = Criminal Justice	PL = Political Science
CS = College Skills	PM = Pharmacy Technician
CT = Construction Technology	PS = Physical Science
DS = Developmental Studies	PY = Psychology
EC = Economics	RE = Real Estate
ED = Education	RL = Religion
EM = Emergency Medical Technology	SO = Sociology
EN = English	SP = Speech
FL = Foreign Language	TH = Theatre
GE = Geography	WT = Welding Technology

F = the course is offered in the fall semester

Sp = the course is offered in the spring semester

Su = the course is offered in the summer semester

DD = the course is offered at the discretion of the department

ACCOUNTING

AC 136 Elementary Accounting I 3 credits

An introductory course in double-entry methods of accounting for service and merchandising enterprises. This includes the complete accounting cycle, special journals, notes and interest, accruals and deferrals, receivable, inventory and plant assets. (F, Sp, Su)

AC 137 Elementary Accounting II 3 credits

A continuation of Accounting 136, with emphasis on partnerships and corporations. The basics of financial analysis, cost accounting and managerial accounting are also included. Prerequisite: AC 136. (F, Sp, Su)

AC 156 Fundamentals of Tax Preparation 3 credits

An introduction to basic tax concepts designed to familiarize the student with frequently used tax forms, tax information and accounting procedures. (DD)

AC 186 Payroll Accounting 3 credits

This course covers the basics of payroll preparation and the filling out of forms that must be filed quarterly and annually by most businesses. Prerequisite: AC 136. (Sp, Su)

AC 206 Computer Accounting 3 credits

In this course computers are used to apply the basic principles and procedures of accrual accounting with a sophisticated accounting software program. Computer accounting applications include general ledger, accounts receivable, accounts payable, invoicing, payroll, inventory and job cost. Prerequisite: AC 136. Basic keyboarding skill required. (Lab fee) (F,Sp,Su)

AC 210 Cost Accounting 3 credits

This course emphasizes the basic theory and procedures of allocating materials, labor and factory overhead through job order, process cost and standard cost accounting systems. Prerequisite: AC 137. (F)

AC 215 Applied Math for Business 3 credits

This course reviews math and algebra fundamentals and uses an algebraic approach of problem solving as applied to the fields of accounting and business. Prerequisite: Appropriate ACT or placement test score, or completion of Math Fundamentals. (Sp)

AC 220 Income Tax Accounting 3 credits

The principles of federal income tax accounting as they apply to the individual partnership and corporation. Prerequisite: AC 136. (Sp)

AC 236 Intermediate Accounting I 3 credits

An in-depth study of accounting procedures with emphasis on financial statements, inventory, and plant and intangible assets. Prerequisite: AC 137. (F)

AC 237 Intermediate Accounting II 3 credits

A continuation of Intermediate Accounting I, emphasizing corporate stocks and bonds, paid-in capital, income taxes, changes in financial position and analysis of financial statements. Prerequisite: AC 236. (Sp)

AC 240 Accounting Internship 6 credits

This course is designed to help the student gain experience in accounting. The program advisor will periodically visit and counsel the student who will be working in a suitable accounting position. Prerequisite: Completion of one year of accounting program. (F, Sp, Su)

AGRICULTURE & NATURAL RESOURCES

AG 103 Soils & Fertilizers 3 credits

A basic study of soils formation, morphology, relationship to water, physical properties, chemical properties, organic matter, classification, erosion and soils relationship to the environment. Plant growth requirements, fertilizers and soil testing are also covered. (F)

AG 104 Soils & Fertilizers Laboratory 1 credit

Laboratory including practical experiences with soils (sampling and testing), and the NRCS Soil Quality Index test for: soil respiration, bulk density, electrical conductivity, soil pH, soil nitrate, aggregate stability, soil slaking, earthworms and water quality; taken in conjunction with AG 103. (F)

AG 105 Plant Science 3 credits

An introductory course in agronomy; areas of study include plant morphology, growth processes, growth and development, crop investment, climate, and nutrition. (F)

AG 106 Plant Science Lab 1 credit

Lab activities involving plant and seed identification, seed germination, plant growth and plant nutrition; taken in conjunction with AG 105. (F)

AG 107 Animal Science 3 credits

An introductory course in animal science; areas of study include genetics, reproduction, nutrition, health and management of meat and companion animals. (Sp)

AG 108 Animal Science Laboratory 1 credit

Laboratory including practical experiences with anatomy and physiology, live animal and meat grading, animal reproduction, and animal health; taken in conjunction with AG 107. (Sp)

AG 109 Pork Production & Management 3 credits

A study of management decisions related to the breeding, feeding, marketing and management of commercial and purebred swine. (DD)

AG 112 Beef Production & Management 3 credits

A study of management decisions related to the breeding, feeding, marketing and management of commercial and purebred beef operations. (F)

AG 114 Crop Science 3 credits

A study of management decisions related to germination, seed selection, tillage and seedbed preparation, planning methods, fertility, pest control, harvest and storage, and marketing of grain, oilseed and forage crops. (F)

AG 117 Agricultural Mathematics 3 credits

An intensive review of the fundamentals of basic arithmetic, fractions, percentages, geometric and algebraic solutions as applied to the field of agriculture. Prerequisite: appropriate ACT or placement test score, or completion of DS 048 Math Fundamentals. (Sp)

AG 124 Horses & Horsemanship 3 credits

A study of the scope and role of the light horse industry, breeds, development of the horse and its use, selection, breeding, feeding, anatomy and foot care, tack and unsoundness. Visits to stables and equine events will be included. (F)

AG 125 Light Horse Production 3 credits

This course will explore in detail the important aspects of light horse production including breeding and reproduction, feeds and feeding, stable management, horse health and behavior, selection and judging for commercial or purebred horses. Prerequisite: AG 124. (F)

AG 140 Agriculture Chemicals/Safety 3 credits

Agriculture Chemicals/Safety is the study of pesticides, labeling, proper use of various chemicals and the safe handling of them. Both human and environmental aspects will be emphasized. Students will learn the proper application of various chemicals, proper safety during handling and application of chemicals, be able to calibrate application equipment and produce application records required by EPA. (DD)

AG 142 Agriculture Computers 3 credits

Students will learn computer applications for GPS, field mapping, chemical records and yield monitors. (DD)

AG 144 Custom Application Operation 3 credits

This course will provide students with a hands-on experience with a custom applicator. Maintenance operation and calibration will be emphasized. (DD)

AG 146 Crop Scouting & Pest Control 3 credits

Students will learn to identify the common pests associated with crop production in Missouri and the appropriate methods of control. (DD)

AG 148 Agriculture Sales 3 credits

Students will study how to become effective sales representatives for agribusiness. (DD)

AG 163 Agriculture Credit and Finance 3 credits

A survey of the principles, concepts and functions of credit and finance as related to agriculture. (Sp)

AG 215 Agriculture & Natural Resources Internship 6 credits

Applied training in a production agriculture operation, an agriculturally related business, or natural resource management agency following a prearranged training plan arrived at cooperatively by the employer, the student and the College, with experiences appropriate for the student and training enterprise. Periodic visits by instructor for conferences with the student and employer. Prerequisite: Instructor Permission. (DD)

AG 224 Principles of Light Horse Training 2 credits

Lectures will pertain to horse behavior and training methods. Students will learn the principles, theory and practical experience of the training of foals up to two years old. (Sp)

AG 225 Advanced Light Horse Training 2 credits

Students will develop further expertise in training, managing, feeding and preparing two-year-old horses. Each student is assigned a horse to take through basic training stages from haltering to riding. (Sp)

AG 227 Feeds & Feeding 3 credits

A basic study of the fundamentals of animal nutrition and feeding requirements, calculation and preparation of balanced rations, and methods of feeding. (DD)

AG 230 Agricultural Marketing 3 credits

Principles, methods and techniques utilized in marketing agricultural products. Special emphasis will be placed on the marketing options and their use. Guest speakers and field trips will be used in addition to discussions. (Sp)

AG 240 Soil & Farm Water Management 3 credits

A study of planning water management practices for soil productivity, farm surveying, design, layout and maintenance of conservation practices utilized in cropland, pasture/hay land, woodland and land uses. (DD)

AG 267 Agribusiness Operations 3 credits

Principles and methods involved in the operation of an agribusiness enterprise. Topics covered include: planning, personnel, control, budgeting and pricing. (DD)

AG 270 Farm Mgmt. & Records Analysis 3 credits

A study of economic principles related to the management and operation of farm businesses; purposes and methods of keeping farm records and analysis of the farm business; and computerized record keeping applications. Applied records assignments utilizing Excel and Quicken are included. (Sp)

ALLIED HEALTH

AH 101 Nurse Aide I

5 credits

Nurse Aide I is a course teaching basic principles, procedures and responsibilities for patient care and their association with common illnesses, rehabilitation processes and the principles of long-term care. The course is designed to teach skills in patient care that will qualify the student to assist the LPN or the RN in direct patient care. Any individual who is employable by a long-term care facility and who is to be involved in direct resident care shall be eligible to enroll in the course, which consists of 80 classroom hours and 100 hours of on-the-job training. On-the-job training and final clinical examinations are not included in AH 101. College certification will be awarded after successful completion of classroom and on-the-job training. State certification as a CNA will be awarded upon documented successful completion of classroom work, on-the-job training and final test with clinical practicum by State approved examiner. Also available as non-credit. (DD)

AH 102 Human Body: Health & Disease 3 credits

This course is designed to provide fundamental information in human anatomy and physiology for those entering health-related fields of study. It includes education regarding all the body systems, common pathology/diseases, diagnostic and treatment modalities. (Does not meet science requirement for AA degree.) (F, Sp)

AH 103 Medical Coding

3 credits

This course is designed to provide coding knowledge and skills by addressing specific coding issues within a particular area. Included is ICD-9-CM and ICD-10 overview; instruction in how to follow the organization of the CPT code book; how to use specialty coding. Prerequisite: AH 160 (Sp)

AH 105 Home Health Aide

5 credits

The purpose of the course is to ensure that the aide will receive instruction in assisting patients to achieve maximum self-reliance by delivering personal care; maintaining a safe, healthful environment; and collecting and recording appropriate information. The course will fulfill requirements for the Personal Care Aide (PCA), Advanced Personal Care Aide (APCA), Home Care Aide (HCA) or Home Health Aide (HHA). (DD)

AH 106 Math for Allied Health Sciences 3 credits

This course is primarily designed to provide the allied health student with a review of basic mathematics as well as methods of dosage

calculation within the systems of weights and measures. Specific IV flow rate and pediatric formulas will be included. (F, Sp, Su)

AH 108 Emergency First Aid 1 credit

Emergency care procedures for nonmedical persons, including choking, CPR (cardiopulmonary resuscitation of adult, child, infant), stressing basic life support, hemorrhage control, splinting of fractures, and management of medical and environmental emergencies. This course is certified under the American Heart Association as Heartsaver First Aid. (DD)

AH 109 Restorative Nurse Assistant 3 credits

This course is designed to provide the basic orientation and necessary skills which will enable the practicing Certified Nurse Assistant (CNA) to be trained as a Restorative Nurse Assistant (RNA). The shift in emphasis from maintenance care to restorative care in the long-term care setting has created a need from trained paraprofessionals who are competent in the special knowledge and skills to assist in therapeutic rehabilitation as prescribed by the physical therapy, occupational therapy and speech therapy consultants. This course addresses the expanded role and places emphasis on increased interactions with therapy consultants, communication and monitoring responsibilities. The philosophy of rehabilitation as well as the concept of the RNA as a role model and resource person for all members of the staff is emphasized. (DD)

AH 110 Medical Technician (CMT) 4 credits

This course provides the knowledge, skills and techniques of drug administration in long-term care facilities as specified by the Department of Health & Senior Services. 60 hours lecture, 8 hours clinical practice and 2 hours final clinical practicum. Fee for practicum and certification not included in course fees. **NOTE:** Students must be high school graduates or equivalent, score a minimum of 8.9 on both vocabulary and comprehensive tests and a minimum score of 7.0 on mathematics concepts and application test on the "D" level of the TABE test, be employed as a C.N.A. for six months and listed on the Missouri State Nurse Assistant Register and have a letter of recommendation from their employer to enroll. (DD)

AH 115 Insulin Administration 0.5 credit

This course prepares medication technicians in a skilled nursing or intermediate care facility or medication aides in a residential care facility I or II to administer insulin. The program is designed to present information on diabetes as it relates to symptoms, complication, proper treatment methods, types of insulin, techniques of insulin administration and methods of monitoring blood sugar levels in order to qualify to

perform these procedures. Documentation of current CMT required in order to receive certification. (DD)

AH 120 CPR for Health Care Professionals 0.5 credit

Designed to acquaint the student with potential causes and methods of intervention in the event of sudden life-threatening situations. Includes adult and pediatric CPR and foreign body airway obstruction for adults and pediatrics and use of an AED. Meets American Heart Association standards. Also available as non-credit. (DD)

AH 160 Basic Medical Terminology 3 credits

A course designed for students who wish to enter the healthcare field or for those presently employed who wish to upgrade current skills of understanding and utilizing medically related terms. Approach is from the general use of roots, prefixes and suffixes of terms most frequently encountered and related to specific body systems. (F, Sp)

AH 200 Principles of Pharmacology (Non-nursing) 3 credits

This course is the study of the principles of pharmacology and their application to allied health professionals (non-nursing). Mathematics skills are reviewed for the safe administration of medications. The nursing process, critical thinking and therapeutic communication in a community-based healthcare system are included. Cultural and ethnic variations are discussed. Emphasis is placed on committing to lifelong learning in the continually changing area of healthcare. (Lab fee) Students must have achieved a 16 or greater ACT in Math or 18 or greater ASSET in Math or 46 Compass–numerical skills or 0-45 Compass–Algebra for placement. Those not meeting this standard should seek guidance from their counselor.) (F, Sp)

AH 202 Health Insurance Billing 3 credits

This course is designed to introduce students to major nationwide medical insurance programs, provide students with a basic knowledge of national diagnosis and procedure coding systems, and simplify the process of filing claim forms. (F)

AH 210 Medical Assisting: Clinical Procedures 3 credits

This course teaches the medical assistant student the principles and importance of asepsis and infection control ; procedures for specimen collection and processing; how to do clinical office diagnostic testing procedures; principles of patient care; how to take a medical history; how to perform a basic physical examination; and the principles of radiology.

(There is an additional two labs required, which is applied toward the 180 hour internship.) Prerequisites: AH 102, AH 200; co-requisite: AH 222. (F, Sp)

AH 211 Medical Law and Ethics 3 credits

This course is designed to expose the allied health professional to the dynamic legal and ethical aspects of employment in a healthcare setting. The various components of medical law and ethics will be explored in a way that is applicable to the healthcare profession. This course will provide insight to help the student gain confidence in dealing with legal and ethical problems that occur as a member of the healthcare system. (F, Sp)

AH 212 Medical Machine Transcription 3 credits

This course is designed to refine machine transcription and to polish word usage, proofreading and punctuation skills. Also emphasized are vocabulary building, spelling and English review. Prerequisite: AH 160 and BT 160 or BT 180. (Lab fee) (Sp)

AH 221 Medical Office Internship 3 credits

This course is designed to place students in a variety of settings to allow on-the-job experience in various allied health science certificate programs. Some hours used to satisfy the requirement may be integrated with other classes in a program's curriculum, with the balance due by the end of this course. Prerequisites: Successful completion of all program course requirements with a GPA of 2.5 or greater. (F, Sp)

AH 222 Medical Assisting Internship 4 credits

This course is designed to place students in a variety of ambulatory care and acute care settings and is available to students who have completed the course requirements for the Medical Assisting A.A.S. and certificate programs. A 2.5 GPA is required to successfully complete the degree requirements. (F, Sp)

AH 223 First Aid & Emergency Procedures 2 credits

This course is designed to help students recognize an emergency, prepare for emergencies, recognize signs and symptoms of acute illness and injury, and how to care for the patient in each situation. (F, Sp)

AUTOMOTIVE & MACHINERY TECHNOLOGY

AM 200 Electrical Systems

3 credits

This course will equip students with an in-depth discussion of basic theory, safety, tools and major automotive electrical/electronic systems (e.g. charging, starting, ignition, lighting, accessories, instruments and computers). It will also cover voltage, current and resistance. The course will also focus on the future technician's ability to use manufacturers' service information, with emphasis given to diagnostic methods in the discussion of troubleshooting and coverage of testing equipment and OBD II.

AM 205 Electronic Diagnosis & Repair

3 credits

This course will provide students with a complete introduction to automotive engine repair and rebuilding. The course will cover the theory, diagnosis and repair of engine operating systems, intake and exhaust systems, cylinder heads, camshafts, valve trains, cylinder blocks and today's high-performance engines. The course will cover the theory of engine operation to include alternate power systems, such as hybrid vehicles, fuel cells and the latest electronic ignition (IE) systems.

AM 250 Mobile Heating, Ventilation & Air Conditioning (HVAC)

3 credits

This course will provide a complete introduction to automotive heating and air conditioning. Coverage of modern engine cooling and heating systems incorporates discussion of the requirements for a closed cooling system and the operation of various types of cooling fans. The course will include; the exact NATEF and ASE tasks so that students are well prepared for employment in the automotive trade.

AM 270 Automotive & Machinery Technology Internship

3 credits

The internship is designed to give the Automotive & Machinery Technology student practical experience working following a pre-approved training plan arrived at cooperatively by the employer, student and instructor.

ART

AR 101 Introduction to Art

3 credits

An introduction to the visual language of art, including elements and principles of composition, roles of color, media and techniques. Includes topics related to painting, sculpture and architecture. (DD)

AR 102 Appreciation of the Arts 1-3 credits

Offered on occasion on various special topics, with specific content indicated by course subtitle. Credit hours determined by contact hours, activities and assignments as appropriate to content. Humanities credit. (DD)

AR 104 Art Appreciation 3 credits

A broad survey of the visual arts guiding the student toward an awareness of art in relation to the environment. Includes the examination of motivations for creating art, the study of various artistic processes and the chronological study of the history of art. Humanities credit. (F, Sp, Su)

AR 105 Design I 3 credits

An introductory course about two-dimensional design principles and elements and how they relate to the other arts. (F, Sp)

AR 106 Drawing I 3 credits

A basic course emphasizing the elements of drawing and the interpretation of visual properties of form and space through drawing. No painting or color involved. (F, Sp)

AR 109 Beginning Oil Painting 3 credits

Beginning Oil Painting introduces the student to the basic fundamentals of oil painting as a means for student development. Students will develop skills in using painting materials, as well as solving problems in basic compositions. (DD)

AR 111 Painting I 3 credits

Introduction to painting through exploration of a variety of techniques, focusing on acrylic and oil mediums. A great deal of attention will be paid to drawing skills in relation to the painting process. Emphasis on studio work. Prerequisite: AR 106. (DD)

AR 112 Water Color Media 3 credits

This course provides experience with selected water-based painting media: water color, casein, tempera and acrylics. (DD)

AR 205 Design II 3 credits

This course focuses on the characteristics of color within design. The application of color to the design process through various instruction and projects will engage students in the theory and practice of color design. Prerequisite: AR 105 (DD)

AR 206 Drawing II **3 credits**

Experience in interpretation of the visual elements from all sources of design: landscape, plant life, man-made and geometric forms, and animal and human forms. Emphasis on creative problems and composition. Use of varied drawing media. Prerequisite: AR 106. (DD)

AR 211 Painting II **3 credits**

Painting II provides a focus on the compositional, technical and stylistic approach to form and content in paint media. Emphasis on composition and expressive originality. Prerequisite: AR 111 (DD)

APPLIED TECHNOLOGY

AT 220 Precision Measurement **3 credits**

This course will help students solve precision measurement and other types of math problems faced regularly by automotive technicians. This course will help students complete repair orders, solve problems and determine if their solutions fall within manufacturers' specifications.

AT 240 Industrial Hygiene & Safety **3 credits**

This course outlines real-world illustrations and solutions in safety training that utilize performance-based occupational safety concepts. As well as workplace safety and training, the course covers changing the workplace culture while improving communication.

BIOLOGICAL SCIENCE

BI 100 General Biology **5 credits**

This course focuses on the general principles of biology, including ecology, cell biology, biochemistry, genetics, microbiology, botany, and zoology. Structure, function and life application are stressed as components of each unit of study. Satisfies the Life Science General Education requirement; consult transfer catalog for specific program biology requirements. Lecture and laboratory. (Lab fee) (F, Sp, Su)

BI 101 General Botany **5 credits**

This course focuses on a fundamental study of plant structure, physiology, ecology, economic importance, life histories, and taxonomy. Satisfies the Life Science General Education requirement; consult transfer catalog for specific program biology requirements. Lecture and laboratory. (Lab fee) (F)

BI 103 General Zoology **5 credits**

A general study of animal phyla with a focus on structure, ecology, behavior, taxonomy, and defining characteristics. Satisfies the Life

Science General Education requirement; consult transfer catalog for specific program biology requirements. Lecture and laboratory. (Lab fee) (Sp)

BI 110 Ecology 5 credits

This course focuses on the general principles of ecology (populations, communities, and ecosystems) and field technique. The inter-relationships of the following natural resources will be stressed: air, water, soils, forests, grasslands, wildlife, fish, and endangered species. Satisfies the Life Science General Education requirement; consult transfer catalog for specific program biology requirements. Lecture and laboratory. (Lab fee) (F)

BI 205 Current Topics in Biology 1 credit

Articles addressing timely topics in biology are studied in this course. Summarization, verification of information, experimental design, and study of human and environmental impact of the topics will be covered. (DD)

BI 210 Special Topics in Life Science 1-3 credits

A special topics course developed to further studies in Life Science. The subtitle of the course will indicate specific content. Credit varies from one to three hours depending on course design. This course may be repeated if the content changes. (DD)

BI 238 Anatomy and Physiology 8 credits

A study of structure and function of the chemicals, cells, and tissues of the human integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Lecture and laboratory. (Lab fee) (F, Sp, Su)

BI 241 Human Chemistry 3 credits

The emphasis of this course is the chemistry and physiology of the cells and tissues within the human integumentary, skeletal, muscular, respiratory, digestive, urinary, cardiovascular, immunological, endocrine, nervous, and reproductive systems. Lecture and laboratory. (Lab fee) (DD)

BI 243 Microbiology 4 credits

This course is a study of microorganisms emphasizing morphology, reproduction, biochemical activities, culture techniques, pathogenicity and control. Lecture and laboratory. (Lab fee) (F, Sp, Su)

BUSINESS ADMINISTRATION

BA 101 Introduction to Business 3 credits

To introduce the student to the characteristics, functions and problems of the business world. (F, Sp, Su)

BA 102 Introduction to E-Business 3 credits

A broad overview and introduction to the various aspects of business in America. Topics include accounting, marketing, management, and credit and finance principles and functions as they apply and are used in the E-Business world. (F, Sp, Su)

BA 103 Consumer Finance 3 credits

Provides information on income management including taxation, credit buying, bank services, insurance and investments. (DD)

BA 105 Introduction to Investing 3 credits

This course develops the awareness of what investments are available, and what is positive and negative about different investments. It also covers basic information needed for sound investment strategy. Offered in the evening only. (DD)

BA 110 Current Issues in Business 3 credits

An orientation to practices and principles of marketing and industrial decisions that affect national and international businesses that contribute to social, economic and environmental changes. (DD)

BA 150 Principles of Management 3 credits

An introductory course in management principles and functions. This course includes the history of management; the processes of planning, departmental organizing, directing, and controlling; and management's relationship with the community and the environment. (F, Sp, Su)

BA 154 Principles of Marketing 3 credits

Marketing foundations represent the basic skills and understandings of the marketing concept within the business environment and the management systems within which it is implemented. Concepts include the marketing mix, consumer behavior, market segmentation, targeted marketing and distribution. The development of a marketing plan is the focal point of the course. (F, Sp, Su)

BA 161 Human Resource Management 3 credits

This course is a comprehensive review of essential personnel management concepts, law, controversies, and techniques of success currently being used in business. Prerequisite: BA150 (F, Sp)

BA 172 Business Management Internship I 2 credits

Seminar-type courses which are based on the application of fundamental business principles and curriculum competencies at both a local internship training station and in the classroom. Prerequisite: Instructor permission. Must be taken sequentially thereafter. Membership to DEX (Delta Epsilon Chi) is required. (F, Sp)

BA 173 Business Management Internship II 2 credits

A continuation of Business Management Internship I. (F, Sp)

BA 174 E-Business Internship I 2 credits

A broad overview and introduction to the various aspects of business in America. Topics include accounting, marketing, management, and credit and finance principles and functions as they apply and are used in the E-Business world. (F, Sp)

BA 175 E-Business Internship II 2 credits

A continuation of E-Business Internship I. (F, Sp)

BA 180 E-Entrepreneurship 1 credit

Each student identifies an E-Business opportunity and prepares all the plans and analyses, which would be necessary to develop the proposed E-Business with instructional guidance and assistance. (F, Sp)

BA 204 Credit & Finance 3 credits

A study of the organization and operation of credit departments, consumer and commercial credit, collections, and business finance. (F, Sp, Su)

BA 221 Business Law 3 credits

An introduction to statutory and administration regulations governing business conduct for small businesses and individuals. Emphasis is placed on contracts, negotiable instruments, employer/employee relationship, sale of personal and real property and insurance. (F, Sp, Su)

BA 222 Legal & Ethical Issues in E-Business 3 credits

A broad overview and introduction to the various legal aspects of doing E-Business in America. Topics include government regulations, copyrights, fraud, contracts, etc. as they apply and are used in the E-Business world. (F, Sp)

BA 252 Advertising & Internet Marketing 3 credits

Advertising and marketing principles and concepts as they apply to E-Commerce will be explored. Marketing mix, consumer behavior, market segmentation, targeted marketing, and distribution will be discussed as applied in the E-Business world. A marketing plan will be developed as part of the course. (Sp)

BA 269 Entrepreneurship 3 credits

Each student identifies a business opportunity and prepares all the plans and analyses which would be necessary to develop the proposed business with instructional guidance and assistance. (F, Sp, Su)

BA 272 Business Management Internship III 2 credits

A continuation of Business Management Internship II. (F, Sp)

BA 273 Business Management Internship IV 2 credits

A continuation of Business Management Internship III. (F, Sp)

BA 274 E-Business Internship III 2 credits

A continuation of E-Business Internship II. (F, Sp)

BA 275 E-Business Internship IV 2 credits

A continuation of E-Business Internship III. (F, Sp)

BA 279 Special Topics in Business 1-3 credits

A course offered in response to a specific situation; a variable issue-oriented course which has its content described in a subtitle. Credit and prerequisites as announced. (DD)

BA 280 International Business 3 credits

This course introduces students to the world of international business and management by studying cultural influences, government, and business structures in our global economy. Students will also learn about trade relations, international finance and legal and labor agreements. Also covered, are topics on information needs, production systems, marketing and promotion and career planning. Prerequisites: BA154 or BA172. (F, Sp)

BA 281 International Business Travel 1 credit

This course is offered as a continuation of BA 280 International Business. The student will be given the opportunity to experience concepts learned in their International Business course by traveling abroad. The course will offer experiences in a business outside the United

States, experiences in a different culture and language, and different cultural business practices. The trip will be offered during the Spring Break week only. Prerequisites: BI110, BA280 or BA280 as a co-requisite with at least a C average in the course.

BUSINESS TECHNOLOGY

BT 110 Business Mathematics 3 credits

This course is designed to give students basic arithmetic fundamentals that will apply in their personal and business lives. Requires minimum ACT, Asset or placement test scores. (F, Sp)

BT 130 Business Communications 3 credits

This course is designed to give the student a basic understanding of the principles involved in verbal and written business correspondence. (Lab fee) (F, Sp)

BT 160 Microcomputer Applications I 3 credits

This course is designed to introduce students to software in the Windows environment, using current word processing, graphics presentation, spreadsheet and database software programs. (Lab fee) (F, Sp)

BT 170 Database Concepts 3 credits

This course provides a comprehensive presentation of Microsoft Access 2007. Topics include creating, querying, and maintaining a database; creating a data access page, reports, forms, combo boxes; using OLE fields, hyperlinks, and subforms; creating an application system using the Switchboard Manager; creating a report using design view; customizing forms using VBA; working with charts and pivot table objects; administering a database, SQL and Access data, in other applications. (Lab fee) (F, Sp)

BT 180 DigiTools 2 credits

This course is designed to prepare the student to work with tools in the digital world, starting with an in-depth use of practical keyboarding techniques. In addition, use of PDAs and tablet computers, cellular technologies, digitizers/scanners and other digital tools will be demonstrated and practiced on. (Lab fee) (F)

BT 190 Spreadsheet Applications 3 credits

This course is designed to give the student a basic understanding of the principles and software involved in spreadsheet applications. This course is designed to give each student the basic tools in 10-key. Much of the student's success is up to the individual as the software must be practiced. (Sp)

BT 200 Desktop Publishing 3 credits

This course is designed to prepare the student to create professional looking custom publications through real life exercises and examples. Publications for both print and internet will be examined and studied. (Lab fee) (F, Sp)

BT 210 Web Page Design I 3 credits

This course will introduce students to software using current desktop publishing and web page design software programs. Prerequisite: BT 160 or instructor approval. (Lab fee) (F, Sp)

BT 215 Web Page Design II 3 credits

This course is a continuation of the basic design principles used in Web Design. The course will also introduce new software, advanced animation and other advanced web features. Prerequisites: BT160 and BT210. (Lab Fee) (F, Sp)

BT 230 Office Procedures 3 credits

This course provides the skills needed to prepare the college trained administrative assistant to meet the requirements necessary for administrative positions in today's competitive job market. This course will help the student develop good decision making skills and exercise good human relations. Areas emphasized in this course include: today's electronic office, technology and procedures, document creation and distribution, research and organization of business reports, travel and conference planning, employment and career advancement. (Lab fee) (Sp)

BT 240 Employment Strategies 1 credit

This course is designed to prepare the student in beginning their job search. It will give them the tools that they need to utilize and to find information in today's competitive job market. (F, Sp, Su)

BT 250 Word Processing II 3 credits

This course is designed for the student to learn advanced word processing concepts and applications. The student will continue to receive hands-on experience on a sophisticated visual display word processing system. Prerequisite: BT 160 (Lab fee) (Sp)

BT 260 Microcomputer Applications II 3 credits

This course will offer students an introduction to an array of multimedia concepts and technology components. (Lab fee) (F, Sp on-line only)

BT 270 Business Technology Internship 4 credits

This course is designed to help the student gain experience in a real business situation so as to improve job performance of beginning workers. It is a capstone experience for student interested in the business technology area. Visitation by college faculty ensures coordination of instruction and on-the-job training. (F, Sp)

CHEMISTRY

NOTE: Placement scores must be three years old or less for placement in math and physical science courses.

CH 107 Introduction to Chemistry 4 credits

A beginning chemistry course primarily for non-science majors. An introduction to the basic principles of chemistry emphasizing the importance of chemistry in the real world and its impact on society and the environment. This course satisfies the general education physical science requirement. Prerequisite: Basic Algebra or equivalent. Lecture and laboratory. (Lab fee) (F, Sp, Su)

CH 110 General Chemistry I 5 credits

A rigorous introductory chemistry course primarily for science, engineering and science education majors. An introduction to the elementary principles of modern chemistry emphasizing structure and properties of matter, stoichiometry, nomenclature and bonding. This course satisfies the general education physical science requirement. Lecture and laboratory. Pre- or co-requisite: MT 122 (Lab fee) (F, Su)

CH 112 General Chemistry II 5 credits

A continuation of General Chemistry I. Topics to be studied include properties of solutions, acids and bases, kinetics, thermodynamics, equilibrium and electrochemistry. Lecture and laboratory. Prerequisite: CH 110. (Lab fee) (Sp)

CH 204 Introduction to Organic Chemistry 4 credits

A short course in organic chemistry primarily for health science and medical technology majors. A survey of the different classes of organic compounds found in both the aliphatic and aromatic series with emphases on structure, nomenclature and reactions. The laboratory will emphasize the development of skills to identify different organic compounds. Lecture and laboratory. Prerequisite: CH 110 (Lab fee) (DD)

CHILD DEVELOPMENT

NCMC offers Early Childhood Development courses to prepare students to work as paraprofessionals in the child care field. Course work is designed to meet the educational component needed for eligibility to apply for the Child Development Associate (CDA) through the CDA National Credentialing Program. The prescribed course sequence also meets Missouri Division of Family Services requirements for the supervisor of day-care centers. These courses are not designed to transfer.

CD112, CD115 and CD120: Students who have not completed articulated coursework for any part of this group will be required to complete all three courses together. Students who have earned articulated credit from their high school through articulation agreements with North Central Missouri College or are transferring from other colleges/universities will have the option to take the remaining courses needed to complete their CDA or AAS requirements.

CD 112 Early Childhood Growth & Development

3 credits

This course will help students understand the characteristics of children at different ages. It will provide an overview of their physical, cognitive, social, emotion, and moral development. Students will learn how to change teaching skills to fit the developmental needs and interests of children at different ages. This course will be taken in conjunction with CD 115 and CD 120 unless otherwise approved by the Director. At the completion of these three courses the student will be able to apply for the CDA (Child Development Associate). (DD)

NOTE: CD112, CD115 and CD120: Students who have not completed articulated coursework for any part of this group will be required to complete all three courses together. Students who have earned articulated credit from their high school through articulation agreements with North Central Missouri College or are transferring from other colleges/universities will have the option to take the remaining courses needed to complete their CDA or AAS requirements.

CD 115 Professionalism in Early Childhood

3 credits

To establish a positive and productive relationship with parents as an Early Childhood Professional, professional documents, journals, conferences and observations along with the understanding of the occupation of parenting must be mastered in writing and professional knowledge. Must be taken in conjunction with CD 112 & CD 120 unless otherwise approved by the Director. (DD)

NOTE: CD112, CD115 and CD120: Students who have not completed articulated coursework for any part of this group will be required to complete all three courses together. Students who have earned articulated credit from their high

school through articulation agreements with North Central Missouri College or are transferring from other colleges/universities will have the option to take the remaining courses needed to complete their CDA or AAS requirements.

CD 120 Pre-School Administration & Mgmt. 3 credits

This course is a survey of childcare programs including planning, developing, and operating a day care center, licensing, curriculum, and parent involvement. Must be taken in conjunction with CD 112 & CD 115 unless otherwise approved by the Director. (DD)

NOTE: CD112, CD115 and CD120: Students who have not completed articulated coursework for any part of this group will be required to complete all three courses together. Students who have earned articulated credit from their high school through articulation agreements with North Central Missouri College or are transferring from other colleges/universities will have the option to take the remaining courses needed to complete their CDA or AAS requirements.

CD 130 Introduction to Early Childhood Education 3 credits

An introductory course that examines the issues, theories, standards and curriculum of early childhood education. Students will gain an understanding for and become more aware of the opportunities that exist to promote learning as they guide young children. (DD)

CD 140 Creative Activities for Children 3 credits

An early childhood course that will examine educationally appropriate materials and creative activities and environments for young children. Topics include planning and assessing learning activities, thematic teaching and constructivist theory, assessment and reporting, creating a stimulating environment for early childhood education. (DD)

CD 150 Special Topics in Early Childhood Education 1-3 credits

A course offered in response to a specific situation; a variable, issue-oriented course which has its content described in a subtitle. Credit and prerequisites as announced. (DD)

CD 205 Health, Safety & Nutrition for the Young Child 3 credits

This course is designed to give information about current concepts in the field of health, safety and nutrition and their relationship to the young child. This course will prepare the early childhood educator to meet the physical needs of young children through the creation of a safe environment, planned routines, and positive experiences. (DD)

**CD 207 Caring for Children
with Special Needs**

3 credits

This course will provide an overview of laws regarding special needs children, developmentally appropriate curriculum, and current issues related to special needs children. This course will also examine the different characteristics of specific special needs. (DD)

CD 209 Preschool Literature

3 credits

This course is designed to present a survey of children’s literature, to establish guidelines for evaluating that literature, to help students become aware of the educational opportunities literature provides, and to develop educational experiences based on literature. (DD)

CD 211 Music for Children

3 credits

Students will learn how early childhood teachers can provide a wide variety of musical activities to stimulate and enhance a child’s innate musical abilities. Students will become aware of all aspects of the music curriculum and will learn how to develop lesson plans incorporating these essential areas towards making music education fun, but skill-driven. (DD)

**CD 213 Exploring Science & Math in the
Early Childhood Setting**

3 credits

This course covers theoretical foundation for teaching science and mathematics in the early childhood setting. Strategies for implementing, nurturing, assessing and supporting early childhood science and math learning environments will be covered. Concepts covered are based on the national Science Education Standards (NSES), the National Council of Teachers of Mathematics (NCTM) Principles and Standards for School Mathematics and Missouri Early Childhood Preschool Standards. (DD)

**CD 220 Language Development
& Early Literacy**

3 credits

An overview of early literacy based on the Missouri Pre-K Literacy Standards. Students will learn about emergent literacy as emergent speaking, emergent writing, and emergent reading. Strategies for enhancing and assessing literacy curriculum in each of these areas will be discussed. Family literacy and its importance will also be included in the coursework. (DD)

**CD 230 Child, Family & Community: Family-
Centered Early Care & Education** **3 credits**

This course gives students the knowledge to provide a supportive educational environment for young children in cooperation between

school, family/home and community. Included are the history of family-centered programs for children, families and teachers; history of family systems; basic principles related to community recourses; child rearing and parenting styles; methods of utilizing and communicating with families and the community. Cultural and socio economic factors and the realities of the changing family and society, as well as variations among parent education program types are considered. (DD)

CD 250 Child Care Observation 3 credits

Supervised observation in conjunction with classroom lecture. The students will meet at least 6 hours with instructor prior to observation experience. The Missouri and Kansas Core Competencies for Early Care and Education Professionals will be reviewed. The students will be required to observe in an early childhood setting for 40 hours at 4 different sites with a minimum of 8 hours at each site. The student, with the teacher and site manager approval, will select the sites. The students will meet for 6 hours at the end of the semester with the instructor to share experiences and bring closure to the observation in preparation for the internship. Prerequisite: CD 112, CD 115, CD 120 (DD)

CD 260 Child Care Practicum 3 credits

The student will actively participate, under supervision, in a developmentally appropriate childhood setting, for a total of 60 hours. The student will ultimately be responsible for implementation of activities and management of the classroom. The class will meet with the instructor prior to the practicum and at the end of the semester. Prerequisite: CD 250. (DD)

COLLEGE SKILLS

CS 100 College Success 2 credits

This course is designed to teach students how to have a successful college experience, both academically and personally. The focus will be on the development of practical knowledge and skills to assist students toward that goal. Topics include time management, test taking, communication skills, study techniques, critical thinking, community and campus resources, and managing the personal and relationship issues that face many college students. (F, Sp)

CS 105 Information Literacy 1 credit

This course is designed to teach students the life-long skill of information literacy, which is the skill to locate information efficiently, evaluate information critically, and utilize information effectively. The focus is on a basic understanding of the research process, the use of print and online resources, and effective utilization of the Internet. (F)

CS 107 Critical Thinking in Core Courses 3 credits

Students learn fundamental concepts and skills for thinking about one's thinking and research strategies for increasing their information literacy. The concepts and skills become the foundation for developing a systematic process for thinking more critically and researching more effectively. The final step is to make the process a habit of mind by utilizing it in core courses.

CS 108 Multicultural Reading 1 credit

A self-study course that will help students develop comprehension, critical analysis, vocabulary and writing skills while considering a wide variety of multicultural topics including biographies, science and the world of work. (Pass/Fail) Prerequisite: student must score at a certain level on ACT, ASSET, SAT, Compass or complete DS 015. (F, Sp, Su)

CS 109 African-American Readings 1 credit

A self-study course that will help students develop comprehension, critical analysis, vocabulary and writing skills while considering the biographies of such influential African Americans as Maya Angelou, Thurgood Marshall, Nelson Mandela and Colin Powell. (Pass/Fail) Prerequisite: student must score at a certain level on ACT, ASSET, SAT, Compass or complete DS 015. (F, Sp)

CS 110 Speed Reading 1 credit

A self-study course designed to help students read more quickly while improving both their comprehension and their vocabularies. This course provides information, strategies and skills likely to produce a lifetime of more efficient reading. (Pass/Fail) Prerequisite: student must score at a certain level on ACT, ASSET, SAT, Compass or complete DS 015. (F, Sp, Su)

CS 111 Women's History Readings 1 credit

A self-study course that will help students develop comprehension, critical analysis, vocabulary and writing skills while considering various aspects of women's lives, including religion, social roles, employment and education. (Pass/Fail) Prerequisite: student must score at a certain level on ACT, ASSET, SAT, Compass or complete DS 015. (F, Sp)

CS 115 Freshman Success Seminar 3 credits

A course designed to cover aspects of college life including: study strategies, time management, test taking skills, communication; as well as, the general introduction to computer usage and campus resources. Co-requisites are placement into three development skills courses via the ACT, ASSET, Compass or NLN exams. (DD)

CONSTRUCTION TECHNOLOGY

CT 107 Materials of Construction 2 credits

An introduction to the construction industry and basic skills needed in the area. Topics include tools, safety, basic construction processes as well as the legal, business and management aspects of the industry. Both new construction and remodeling will be covered.

CT 178 Construction Techniques I 5 credits

Techniques and procedures of construction with practical application relating to residential and light industrial structures for floor, wall, ceiling and roof components.

CT 179 Cabinet Making 3 credits

This course will cover cabinet making and woodworking techniques employed by custom cabinet makers and home woodworkers. The course content will follow the sequential order of the design and construction process. In addition to traditional materials and procedures, the course will cover the advances of technology for woodworking, including manufactured panel products, 32mm construction & European hardware.

CT 185 Residential Electrical Wiring 3 credits

The study of the National Electrical Code, materials and application of electrical wiring relating to residential construction.

CT 195 Residential Plumbing 3 credits

Techniques and procedures of plumbing with practical application relating to residential structures. Selection and installation of plumbing fixtures and piping.

CT 230 Roof Structural Systems 4 credits

A study of construction materials and methods with practical application relating to roof framing for residential units, emphasizing basic, structural systems, design factors, strength of materials and aesthetic values. Also encompasses roofing, roofing materials and application.

CT 236 Building Layout 2 credits

Methods of staking out a building on site, use of transit, methods of layout, and forming for concrete walks and drives. Also estimation of site preparation and grading.

CT 278 Construction Techniques II 5 credits

Techniques and procedures of construction with practical application relating to residential and light industrial structures for interior finish, stair construction, cabinets and remodeling.

CT 279 Heating, Ventilation & Air Conditioning (HVAC) 3 credits

This course covers the operation of refrigeration, air conditioning and heating systems. It will provide instruction for troubleshooting and servicing HVAC equipment as well as the correct methods of refrigerant handling. EPA Technician Certification and techniques needed to properly perform HVAC installation, service and repair is emphasized.

CT 286 Exterior Methods 3 credits

A study of exterior wall materials and finishes, emphasizing design, aesthetic values and utility, with practical application relating to residential and frame construction.

CT 290 Supervised Construction Employment 6 credits

On-job training with a construction company or construction related business following a prearranged training plan developed cooperatively by the College, employer and student, with learning experiences planned in a logical sequence. Periodic visits by College supervisor. Eight weeks, full-time.

CT 291 Construction Technology Internship 3 credits

The internship is designed to give the Construction Technology student practical experience working on an actual home construction site.

CRIMINAL JUSTICE

CJ 118 Procedural Law 3 credits

Laws of criminal procedure regulating law enforcement and criminal law process. This course will include a study of the fundamental concepts of constitutional and criminal law. Elements of local, state and federal jurisdiction, venue and procedure as they apply to law enforcement. Law of arrest, search and seizure. (Sp even years)

CJ 125 Liability & the Criminal Justice Officer 3 credits

Law of negligence and tort liability arising from police conduct. (F odd years)

CJ 126 Introduction to Criminal Justice 3 credits

Surveys of the philosophical and historical background of the criminal justice system. Principles of organization and roles of police and legal

systems in relation to activities of local, state and federal agencies. Human relations and social control devices are also studied. (F)

CJ 140 Criminal Investigations 3 credits

A study of modern criminal investigation procedures including methods of investigation, sources of information, questioning and interviews, collection and preservation of evidence, preliminary and follow-up investigation, and case preparation. (F)

CJ 170 Introduction to Juvenile Law 3 credits

An examination of the origins, philosophy and objectives of the juvenile justice system. Studies the delinquent juvenile as an individual and the impact on society; investigates delinquency, causation, the role of the law enforcement officer, the juvenile officer, the juvenile court and juvenile corrections. (F)

CJ 218 Criminology 3 credits

An examination of theories of crime and its causes including interrelationships between specific crimes, types of offenders and correctional theories. (Sp even years)

CJ 219 Criminal Evidence 3 credits

Students will study the nature, types and degrees of criminal evidence; rules governing admissibility; competency; and relevancy of evidence. (Sp odd years)

CJ 226 Introduction to Corrections 3 credits

Historical analysis of the development of corrections and the influence of social thought and philosophy of this development. Current trends in corrections, court decisions and the role of corrections within the criminal justice system. (F)

CJ 235 Criminal Law 3 credits

Explores the origin, development and classification of substantive criminal law. This course will review the rules of evidence important at the operational level of law enforcement with emphasis on criminal procedures in arrest, use of force, and search and seizure. (F)

CJ 239 Police Organization and Management 3 credits

Introductory survey of current administrative methodology; reviews the organization of the police service, police functions, principles of police management and operational services within the police agencies. Will include the study of administrative theory as it relates to organizations within the criminal justice system. (Sp odd years)

CJ 245 Police Report Writing 3 credits

The development of written and oral forms of communication in the criminal justice system. This course will focus on the mechanics of written reports, interviewing, interrogation and testifying. (Sp odd years)

CJ 250 Criminal Justice Practicum 3 credits

Students participate with various public sector criminal justice agencies (e.g. Circuit Court, Juvenile Court, Probation and Parole, local police departments, etc.) in order to gain knowledge about the structure and function of public services agencies. The field placement must be program related. Prerequisite: Minimum of thirty hours course work in the program and permission of the instructor. (F, Sp, Su)

CJ 255 Interviewing and Interrogation 2 credits

The student will develop knowledge and working skills in the art of interviewing and interrogation. The course is designed for both in-service and pre-service law enforcement students. (Sp)

CJ 260 Constitutional Aspects of Criminal Justice 3 credits

Selected constitutional aspects of law enforcement including the law of arrest, search, freedom from electronic eavesdropping, self-incrimination and the right to counsel. (Sp even years)

DEVELOPMENTAL STUDIES

NOTES: DS courses are college preparatory and do not apply toward any degree requirement in any program at NCMC and are not designed to transfer. All Developmental Studies courses are graded Pass/Fail.

Placement scores must be three years old or less for placement in math and physical science courses.

DS 015 College Reading 3 credits

The course is designed to improve students' vocabulary, comprehension and reading rate, while emphasizing the importance of the key strategies and components necessary to read fiction, nonfiction and textbooks effectively. Students who score below a certain level on a placement test are required to complete this course. (Pass/Fail) (F, Sp, Su)

DS 020 Reading/Writing Improvement 5 credits

The course is designed to take advantage of the interrelationships between reading and writing to improve reading skills (comprehension vocabulary, reading rate) and writing proficiency. Course includes an introduction to writing paragraphs and essays combined with a review of grammar, sentence structure, punctuation, and spelling. ACT or ASSET; COMPASS scores must be on file. (Pass/Fail) (F)

DS 023 Spelling Improvement 1 credit

A self-study course designed to encourage spelling improvement through the study of spelling patterns and irregularities. This course provides information, strategies and skills likely to produce a lifetime of spelling growth. (Pass/Fail) (F, Sp, Su)

DS 024 Vocabulary Improvement 1 credit

A self-study course designed to encourage vocabulary growth through study of word parts and understanding words in context. This course provides information, strategies and skills likely to produce a lifetime of more efficient reading. (Pass/Fail) (F, Sp, Su)

DS 025 Writing Improvement 3 credits

An introduction to college writing with emphasis on the whole writing process and on building confidence as a writer. Students will progress from personal narratives to analytical essays; ACT or ASSET, Compass scores must be on file. (Pass/Fail) (F, Sp, Su)

DS 031 & DS 032 Basic Skills Lab 1 or 2 credits

This is a self-study course individualized by the Academic Resource Center Director or ARC Staff to assist students in the college success areas in which they have difficulties and/or with NCMC coursework. (Pass/Fail) (F, Sp, Su)

DS 048 Math Fundamentals 3 credits

Student learning outcomes include: whole number, fraction, and decimal operations and properties, ratios and proportions, signed number operations, basic geometry concepts, units of measurement and introduction to statistics. (Pass/Fail) (F, Sp, Su)

DS 049 Basic Algebra 3 credits

Student learning outcomes include: order of operations, solving linear equations and inequalities, introduction to graphing in a rectangular coordinate system, simplifying polynomial expressions, factoring and solving quadratic equations with an emphasis on problem solving. Placement testing or ACT required. (Pass/Fail) (F, Sp, Su)

DS 080 Introduction to Keyboarding 2 credits

This self-paced, hands-on computer course teaches students the alphabetic, numeric and symbol keys, as well as the 10-key pad. Students will develop speed and accuracy through the touch system. (Lab fee) (Pass/Fail) (F, Sp)

ECONOMICS

EC 223 Agriculture Economics 3 credits

An introduction to the basic concepts and issues of economics as they relate to the food and fiber industry and management of natural resources. Additional projects involving global agricultural trade are included. (F)

EC 252 Microeconomics 3 credits

An introduction to basic microeconomic fundamentals with emphasis on economic reasoning, supply and demand analysis, market structure, globalization and trade, government intervention in markets, economics and government policy and income distribution. (F, Sp)

EC 253 Macroeconomics 3 credits

An introduction to basic macroeconomic fundamentals with emphasis on growth, business cycles, unemployment and inflation, Gross Domestic Product, macroeconomic models, monetary and fiscal policy and international effects of domestic policy. (F, Sp)

EDUCATION

NOTE: Child Psychology and Adolescent Psychology are listed under Psychology (PY).

ED 200 Foundations of Education 3 credits

This course is designed to examine the historical, philosophical, sociological, political, economic and legal foundations of American public education systems. Students will explore the nature of school environments, design and organization of school curricula and characteristics of effective schools and instruction in grades P-12. Educational structures, practices and projections for the future will be studied. Prerequisite: EN 101 & GPA 2.0. AAT Core Course. (F, Sp, Su)

ED 201 Teaching Profession with Field Experience 3 credits

This course provides students an opportunity to observe teaching and learning for thirty (30) hours or more in P-12 classrooms. Students are introduced to the requirements for teach preparation and certification. Students will examine characteristics of effective teaching. The course is designed to assist students in determining if a career in teaching is an appropriate goal. Prerequisite: EN 101 & GPA 2.0. AAT Core Course. (F, Sp)

ED 265 Multicultural Education 3 credits

Historical and contemporary analysis of educational policies that incorporate ethnic, religious, and linguistic minorities through selected presentations, text readings, and field experiences. Students will gain

awareness of diversity and develop a theoretical understanding of diversity through investigations of diversity within the local community and the creation of an action plan to address diversity issues within his/her classroom. (F, Sp, Su)

ED 270 Educational Psychology 3 credits

This course is designed to help students relate the application of psychological principles to teaching, learning and assessment and the educational practice in P-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. Prerequisite: EN 101 & PY 121; GPA 2.0. AAT Core Course. (F, Sp)

ED 275 Technology for Teachers 3 credits

In this course students will learn how to integrate instructional technology into the P-12 classrooms. Students will study a variety of software programs, presentation technology and telecommunication tools. The focus will also be on social, ethical, legal and human issues surrounding the use of technology. Prerequisite: EN 101; GPA 2.0. AAT Core Course. (F, Sp)

ED 276 Introduction to Special Education 3 credits

An introductory course in special education, identifying roles, placement alternatives, legal implications and the status and trends in special education. An analysis of the categories of exceptionality will be a main focus. Prerequisite: EN 101. (DD)

ED 278 Principles of Early Childhood 3 credits

The education and guidance of children from two to six years of age in the home, preschool and kindergarten. Readings, discussions, and observations at the preschool and kindergarten level are required. (DD)

ED 280 Special Topics in Education 1-3 credits

A course offered in response to a specific situation; a variable topic-oriented course that has its content described in a subtitle. Credit and prerequisites as announced. (DD)

**ED 283 Health & PE Methods
for Elementary Teachers 3 credits**

This course is designed to provide the elementary education teacher candidate with knowledge and practical experiences with content and methods for teaching health and physical education at the elementary school level. (Sp)

ED 285 Education of Exceptional Learners

3 credits

This survey course is an introduction to exceptional learners and their education in grades P-12. Students will attain knowledge, skills and dispositions that will enable them to work effectively with exceptional learners in general education or special education. Prerequisite: EN 101 & PY 121. (F, Sp, Su)

ED 290 Paraprofessional & Substitute Teaching Internship

3 credits

The student will actively participate, under supervision, in a paraprofessional or substitute teaching setting, for a total of 60 hours. The student will ultimately be responsible for implementation of duties assigned by the internship supervisor. The class will meet with the instructor prior to the internship and at the end of the semester. Prerequisites: ED 200 & ED 201

ED 295 Capstone: Teacher Work Sample Artifacts

1 credit

This course introduces students to the preparation of the teaching portfolio. Students will prepare and submit a portfolio of teaching artifacts by discussing, analyzing and reflecting on the 11 MoSTEP standards for teacher preparation. Pre or Co-requisites: ED200, ED201, ED270, ED275. (F, Sp)

EMERGENCY MEDICAL TECHNOLOGY

EM 100 First Responder

2 credits

Provides training in emergency medical care for the first persons responding to an accident. (DD)

EM 200 Basic Emergency Medical Technology

7 credits

Encompasses the Department of Transportation requirements for licensure as an ambulance attendant, covering basic emergency medical care procedures, patient assessment and treatment, and emergency medical equipment. 96 hours lecture, minimum 24 hours clinical. (Lab fee) Credit hours subject to change per Missouri EMS requirements. (DD)

EM 211 Emergency Medical Refresher 2.5 credits

Updates the skills and knowledge of licensed emergency medical technicians for re-licensure purposes as required by statute. 30 hours lecture, 10 hours lab. (DD)

ENGLISH

NOTE: College preparatory courses in English can be found in the Developmental Studies section.

EN 101 English I

3 credits

An introduction to expository and argumentative writing, emphasizing reading, critical thinking and analytical writing skills. Several short papers are assigned, with emphasis on the writing process. Prerequisite: Appropriate score on ACT, ASSET, Compass, SAT, or successful completion of DS 025 is required for initial placement. General education credit. (F, Sp, Su)

EN 102 English II

3 credits

A continuation of EN 101, emphasizing longer and more impersonal and critical writing forms. Organizational skills are developed through the outline and summary units; analytical reading and critical thinking are stressed. A thorough use of library and online resources is required for the bibliography unit and the final research paper. Prerequisite: EN 101. General education credit. (F, Sp, Su)

EN 110 Creative Writing I

3 credits

A beginning course including theory and practical experience in writing short fiction, nonfiction, poetry and the one-act play. Students are required to concentrate on one of the four genres. A major emphasis is on process. Students must submit a number of pieces and revise a portion of their work for possible publication. English elective credit. (DD)

EN 196 Literature for Children

3 credits

This course is an introduction to the selection and presentation of literature for preschool and elementary level children. Students will be exposed to children's books in various genre. The course emphasizes the importance of cultural literacy and early and continuous exposure to literature. Does not meet humanities requirement. (F, Sp, Su)

EN 210 Creative Writing II

3 credits

As in Creative Writing I, students must concentrate on one of the four genres. As more advanced creative writers, students taking this course will be expected to demonstrate a greater understanding of the writing process and a better grasp of the basic principles of creative writing. Prerequisite: EN 110 or consent of instructor. English elective credit. (DD)

EN 211 Studies in Literature

1-3 credits

A special topics course in communication, which may include Women Writers, Popular Literature, or the Broadway Show. The subtitle on

schedule of courses for a particular semester indicates specific content. Credit varies from one to three hours. This course may be repeated if the content changes. Humanities credit. (DD)

EN 215 Technical Writing 3 credits

A course covering basic principles and concepts, elements of visual presentation, technical writing techniques, and various technical writing documents, including literature reviews, research reports, proposals, feasibility studies, progress reports and instructions. Prerequisite: EN 101. (DD)

EN 230 English Literature I 3 credits

A survey of some significant works of English literature from Beowulf to Pope. Selected authors within this time frame will vary to offer as wide an overview of genres and perspectives as possible during the semester. Prerequisite: EN 101 or current enrollment in EN 101. Humanities credit. (DD)

EN 240 English Literature II 3 credits

A survey of some significant works of English literature from the Romantics to the 20th century. Selected authors within this time frame will vary to offer as wide an overview of formal developments and changes in class, race and gender perspectives as possible during the semester. Prerequisite: EN 101 or current enrollment in EN 101. EN 230 is not a prerequisite for EN 240. Humanities credit. (DD)

EN 251 World Literature: Beginning to the Renaissance 3 credits

A survey of world literature from the beginnings through the Renaissance in Europe. Selections from various cultures are examined for the intellectual trends of the period, for literary and cross-cultural elements, and for artistic design. Prerequisite: EN 101 or current enrollment in EN 101. Humanities credit. (DD)

EN 252 World Literature: Enlightenment to the Present 3 credits

A survey of world literature from the European Enlightenment through the twentieth century. Selections from various cultures are examined for the intellectual trends of the period, for literary and cross-cultural elements, and for artistic design. Prerequisite: EN101 or current enrollment in EN101. EN251 is not a prerequisite for EN252. Humanities credit. (F, Sp, Su)

EN 261 American Literature Before 1865 3 credits

A survey of precolonial, eighteenth century and early nineteenth century literature with emphasis on the varied responses to the contexts of American experience, including voices of the dominant as well as minority cultures. Prerequisites: EN 101 or current enrollment in EN 101. Humanities credit. (DD)

EN 262 American Literature After 1865 3 credits

A survey of late nineteenth century, modern and contemporary literature with emphasis on the varied responses to the contexts of American experience, including voices of the dominant as well as minority cultures. Prerequisite: EN 101 or current enrollment in EN 101. EN 261 is not a prerequisite for EN 262. Humanities credit. (F, Sp)

EN 280 Introduction to Literature 3 credits

This course introduces students to the college-level study of literature by focusing on a thematically arranged selection of literary texts. Students will read poetry, plays, short fiction, and a novel, will respond to the literature analytically and responsively, and will learn to value their own as well as others' interpretations. (F, Sp)

FOREIGN LANGUAGE

FL 100 Elementary Spanish I 3 credits

An introductory course in Spanish stressing conversation, basic structural patterns of the language and comprehension of grammatical concepts. Initiates awareness of Hispanic cultures along with the ability to understand simple conversation in Spanish and to communicate basic needs and activities. Intended for students with no previous study of Spanish. Not introductory to FL 102. Humanities credit. (F, Sp)

FL 101 Elementary Spanish II 3 credits

Conversation, grammar and reading are stressed. Oral practice and repetition are used as an aid to pronunciation. Prerequisite: FL 100. Humanities credit. (DD)

FL 102 Conversational Spanish 3 credits

This course is a continuation of principal grammatical points with additional conversation and reading. Composition is introduced but not heavily stressed. Prerequisite: FL 101. Humanities credit. (DD)

FL 110 Elementary German 4 credits

This is an introductory course in German with an emphasis on speaking the language. Pronunciation, simple grammatical usage, syntax,

vocabulary and idioms in carefully graded reading material. This is a first course in basic German language. Humanities credit. (DD)

FL 111 Elementary German II 3 credits

This course is a continuation of FL 110 Elementary German I, using the same text and classroom materials. Conversation, grammar and reading are stressed. Oral practice and repetition are used as an aid to pronunciation. Prerequisite: FL 110. Humanities credit. (DD)

FL 120 Elementary French I 3 credits

An introductory course in French emphasizing conversational speaking and comprehension, pronunciation, and the accumulation of basic vocabulary. Simple grammatical concepts are also introduced. Humanities credit (DD)

FL 122 Elementary French II 3 credits

This course is a continuation of FL 120, Elementary French I, using the same text and classroom materials. Prerequisite: FL 120. Humanities credit. (DD)

FL 155 American Sign Language I (ASL I) 3 credits

This course is an introduction to the receptive and expressive usage of American Sign Language (vocabulary, finger spelling and numbers). The purpose of this course is to enable the student to communicate with the deaf and hard of hearing people who use signs. This course will help prepare persons interested in preparing for beginning entry into interpreter programs. The history of American Sign Language will also be explored. (DD) Humanities credit.

FL 203 Spanish Reading 3 credits

This course consists of the reading of representative Spanish novelists and playwrights of the Romantic and Realistic periods. It is not intended to be a survey course but rather an introduction to the reading of simple texts in Spanish. All class work is conducted only in Spanish. Discussion of works, reading and written reports on authors and trends are stressed. Humanities credit. Prerequisite: FL 101 (DD)

FL 255 American Sign Language II (ASL II) 3 credits

This course is a continuation of American Sign Language emphasizing on expanding the receptive and expressive sign vocabulary and usage of conversation. The purpose of this course is to give a stronger foundation to the student to communicate with the deaf and hard of hearing community. This course will help persons prepare for entry into interpreter programs. Prerequisite: FL 155. Humanities credit.

GEOGRAPHY

GE 106 Introduction to World Geography 3 credits

A survey course dealing with the physical characteristics of the earth, including an analysis of patterns of human utilization and interaction with both the earth and its resources, as well as an examination of all four traditions of the discipline of geography. (F, Sp)

HEALTHCARE MANAGEMENT

HC 201 Healthcare Management 3 credits

This course is designed to teach specialized, practical skills and techniques used in a variety of healthcare settings. Healthcare management encompasses a wide range of administrative responsibilities, such as cost containment, efficiency, decision making, information systems, human relationships and leadership. Prerequisites: BA 161 & BA 150 (Sp, even years)

HISTORY

HI 101 Western Civilization to 1700 3 credits

This course is a survey of the social, intellectual, religious, political and economic institutions and traditions developed by groups of people who first lived around the Mediterranean Sea and branched out into Europe and the Western Hemisphere. The time span of the course is from prehistory to approximately 1715. Humanities/Social Science credit. (F, Sp)

HI 102 Western Civilization Since 1700 3 credits

A continuation of the survey of institutions, traditions and history of Western Civilization with emphasis on European developments and their interaction with non-western cultures and traditions. The time span for this course is from approximately 1715 to the present. Humanities/Social Science credit. (F, Sp, Su)

HI 103 American History to 1877 3 credits

A survey course of the history of the United States covering European backgrounds, the colonial and Constitution periods, national expansion and development through Reconstruction. (Meets the Constitutional Requirement). Prerequisite: Appropriate score on ACT, ASSET or SAT, or successful completion of DS 015 (F, Sp, Su)

HI 104 American History Since 1877 3 credits

A continuation of HI 103. A survey course considering national growth and development, and the constantly broadening sphere of American participation in world affairs from Reconstruction to the present time. (Sp)

HUMANITIES

HU 110 Humanities: Pre-Renaissance 3 credits

An integrated course in western culture encompassing an introduction to literature, painting, music, sculpture and architecture, as well as the discipline of philosophy presented as interrelated and integrated manifestations of human creativity. Employing methodologies associated with the study of cultural and intellectual history, the course seeks to create an understanding of why we are the way we are. Humanities credit. (F)

HU 111 Humanities: Renaissance to Present 3 credits

A continuation of HU 110, with special attention to western cultural heritage from the renaissance period to the present. Humanities credit. (F, Sp)

INFORMATION TECHNOLOGY

IT 110 Introduction to Computers 3 credits

An introduction to the basic concepts of information processing and the hardware and software used. The course is designed to familiarize the student with the computer through hands-on experience and classroom lecture. (Lab fee) (DD)

IT 113 Windows Concepts 3 credits

Provides an in-depth study on the microcomputer environment with an emphasis placed on MS Windows. Basic keyboarding skills required. (Lab fee) (F)

IT 120 Microcomputer Concepts 1 credit

Introduces the use of computers in business organizations, professional activities and personal life. Topics include terminology, hardware and software, applications and systems development, networking and the use of contemporary software. Intended for non-IT majors. (DD)

IT 125 Information Processing Concepts 3 credits

An introduction to the basics of computer use and understanding. The course seeks to foster not only practical application knowledge, but also a degree of comfort in understanding and using today's computer technology. Issues relating to both hardware and software will be discussed, as well as a basic understanding of the history and development of computer technology. Part of the course will also consider the relationships between technology and our social and personal worlds. (Lab fee) (DD)

IT 239 ANS COBOL II 3 credits

Application problem solving using COBOL for tables, sequential and indexed-sequential disk processing, error routines, subroutines, and sorts. Prerequisite: IT 238. (Lab fee) (DD)

IT 243 Programming I 3 credits

A hands-on introduction to structured, object-oriented programming in the C++ environment. Includes a study of data types, functions classes, selection and looping. Prerequisites: Basis keyboarding skill. Intermediate or college Algebra recommended. (Lab fee) (Sp)

IT 244 Programming II 3 credits

A continuation of IT 243. Includes the topics of Advanced Functions, Arrays and Vectors, Enumerations, Multidimensional Arrays, Pointers and run time allocations. Prerequisite: IT 243. (Lab fee)

IT 248 Pascal 3 credits

An examination of programming constructions, stepwise refinement and structuring techniques, and programming style using the Pascal language. Basic keyboarding skills required. (Lab fee) (DD)

IT 252 Business Systems and Design 3 credits

A study of the duties of the systems analyst covering methods and techniques for conducting a systems project—from the preliminary investigation through the systems implementation and evaluation. (Lab fee) (Sp)

IT 256 Data Structures 3 credits

An investigation of structured problem solving, elementary data structures and the comparative study of algorithms. Prerequisite: IT 182 or IT 243 or IT 290. (Lab fee) (DD)

IT 260 Advanced Database Management 3 credits

This course will cover advanced topics of database management systems (DBMS) topics not covered in BT170-Database Concepts. These topics include programmatic Structured Query Language (SQL), the Open Database Connectivity (ODBC) standard, database administration/management issues, database monitoring and tuning, object DBMSs and object-relational DBMSs, web technology and DBMSs, semi-structured data and XML and data warehousing concepts. The course is broad-based with the objectives of ensuring that students become knowledgeable of the current DBMS technology that is available today and are made aware of the current areas of database research. Prerequisite: BT170 (DD)

IT 266 Computer Operating Systems 3 credits

Develops the student's ability to identify, explain and run various computer operating systems. Provides the student with a basic understanding of what an operating system is, program management, input/output control, and the structure of program and data libraries. (Lab fee) (F, Sp)

IT 268 UNIX/Linux 3 credits

This course introduces the fundamentals of the UNIX operating system. The course guides students through the basics of UNIX system concepts, architecture and administration. The course also includes networking essentials commonly used in the UNIX environment. Standard UNIX networking tools will be covered, as well as the different "flavors" of UNIX, including Linux. (Lab fee) (DD)

IT 270 Data Processing Internship 4 credits

An opportunity to gain experience in a work environment in data processing. Program instructors visit and counsel students on the job. For sophomore Data Processing majors. (Instructor permission required) (F, Sp)

IT 275 Networking Concepts 3 credits

A study of installation, configuration and administration of a microcomputer network using Novell Netware, UNIX, Windows NT and other networking operating systems. The student will learn to plan a network configuration, install network software, create users, and establish and administer networking services. (Lab fee) (DD)

IT 277 Windows Network Infrastructure 3 credits

Windows Network Infrastructure will help those familiar with and those new to Windows 2000 products. This course will teach installing, configuring, managing and supporting a network infrastructure that uses the Windows 2000 Server products. This course will help the student prepare for the Microsoft Exam 70216: Implementing and Administering Microsoft Windows 2000 Network Infrastructure. Prerequisite: IT 275. (Lab fee) (DD)

IT 279 Novell Networking 3 credits

This course gives a hands-on, in-depth look at computer network hardware with Novell software. Includes topology, protocols, cable types, design, installation, configuration, system administration, security issues, performance issues and troubleshooting of the Novell network operating system. Prerequisite: IT 275. (Lab fee) (DD)

IT 280 Computer Hardware 3 credits

This course offers a detailed study of microcomputer systems hardware modules. Combining theory and practice, the course will cover module level maintenance, repair, replace and retrofit and upgrading trade-off decision parameters; and introductory troubleshooting. Students will identify and replace defective modules, perform hardware upgrades and install software with attendant hardware boards. Students will gain experience in the assembly and disassembly of microcomputer stems. (Lab fee) (DD)

IT 290 Java Programming 3 credits

This course will introduce students to modern object-oriented techniques. Java will be used for this course, and although primarily known as a tool to develop applets for Web pages, it can be used as a general-purpose programming language. Java is object-oriented and has been designed for maximum portability while incorporating automatic storage management, exception handling and integrated support for multi-threading. Prerequisite: IT 182 or 243 or Instructor approval. (Lab fee) (Sp)

IT 295 Special Topics in Information Technology 1-3 credits

A course offered in response to a specific situation; a variable issue-oriented course which has its content described in a subtitle. Credit and Prerequisites as announced. (DD)

JOURNALISM

JN 121 Journalism Practicum I 1 credit

Laboratory practice in the various areas of journalism involved in newspaper or yearbook production: editing, writing stories and headlines, page and book designs and layouts. English elective credit. (DD)

JN 122 Journalism Practicum II 1 credit

Continuing practice in newspaper or yearbook production stressing skills in editing, writing, page and book design. English elective credit. Prerequisite: JN121 (DD)

JN 126 Newswriting I 3 credits

An introduction to the practical aspects of recognizing, gathering, organizing and effectively reporting news events. Major emphasis on developing ability to write clearly and accurately. Some attention is given to methods of interviewing, copy reading, proofreading and headline writing. English elective credit. (DD)

Controllers (PLCs). Programming applications such as sequencing, timers, counters, I/O and motor control will be covered in this course. At the completion of this course students will be able to program a PLC for motor control, I/O applications, sequencing applications, timer operations, counter functions and troubleshoot the PLC system. (F)

MF 150 Principles of Safety 3 credits

This course prepares students for the safety assessment leading to Manufacturing Skill Standards council Production Technician Certification (MSSC-PTC) and for ensuring the production and manufacturing system meets health, safety and environmental requirements. This course is part of a nationwide, industry-led system that certifies the foundational skills and knowledge required of production workers from entry-level to first line supervision in all manufacturing sectors. The system provides national, portable certification of workers against industry-recognized, federally-endorsed standards.

MF 155 Principles of Maintenance 3 credits

This course prepares students for the maintenance assessment leading to Manufacturing Skill Standards Council Production Technician Certification (MSSC-PTC). This course prepares students for ensuring that the maintenance of the manufacturing system fulfills customer and business requirements, to include installing and repairing equipment on the manufacturing floor. This course is part of a nationwide, industry-led system that certifies the foundational skill and knowledge required of production workers from entry-level to first line supervision in all manufacturing sectors. The system provides national, portable certification of workers against industry-recognized, federally-endorsed standards.

MF 160 Principles of Quality and Continuous Improvement 3 credits

This course prepares students for the quality and continuous improvement assessment leading to Manufacturing Skill Standards Council Production Technician Certification (MSSC-PTC) and for ensuring the production and manufacturing system meets quality system requirements as defined by business and its customers. This course is part of a nationwide, industry-led system that certifies the foundational skills and knowledge required of production workers from entry-level to first line supervision in all manufacturing sectors. The system provides national, portable certification of workers against industry-recognized, federally-endorsed standards.

MF 165 Principles of Manufacturing Processes and Production 3 credits

This course prepares students for the manufacturing processes and production assessment leading to Manufacturing Skill Standards Council Production Technician Certification (MSSC-PTC). This course helps students set up, operate, monitor, control and improve manufacturing processes and schedules to meet customer and business requirements; develop, implement and improve the manufacturing process through early production and process changes; and assess product and process design for manufacturability. This course is part of a nationwide, industry-led system that certifies the foundational skills and knowledge required of production workers from entry-level to first line supervision in all manufacturing sectors. The system provides national, portable certification of workers against industry-recognized, federally-endorsed standards.

MF 172 Manufacturing Tech Internship I 2 credits

Instructor approval required. (F)

MF 173 Manufacturing Tech Internship II 2 credits

Instructor approval required. (Sp)

MF 201 Industrial Electronics 3 credits

This course provides an understanding of diodes, transistors, thyristors, operational amplifiers, and how they work and are used in the industrial setting. Test equipment will be used for verification of operation. Prerequisite: Requires completion of vo-tech Industrial Maintenance program, appropriate prior experience, or instructor permission. (Lab fee) (F)

MF 205 Digital Electronics 3 credits

This course provides students with advanced electronic skills used in maintaining, installation and development of the complex equipment used in the modern manufacturing environment. Topics covered include number systems, logic gates, flip-flops, registers and counters, analog-to-digital, and digital-to-analog data conversions. Prerequisite: Requires completion of vo-tech Industrial Maintenance program, appropriate prior experience, or instructor permission. (Lab fee) (F)

MF 220 AutoCAD I 3 credits

This is the first course in the use of the Computer Aided Drafting software AutoCAD. It includes development in the skills of File, Draw, Text and Editing commands while working in the Cartesian workspace. File handling and plotting are stressed. (Lab fee) (F, Sp)

MF 221 AutoCAD II 3 credits

A continuation of AutoCAD I (MF 220) in the study of application of AutoCAD in the industrial world. To include the topics of three-dimensional modeling, Scaling, Paper Space, Geometric Calculator and Customization of AutoCAD. Prerequisites are MF 220 or permission of the instructor. (Lab fee) (F, Sp)

MF 222 AutoCAD III 3 credits

This course will provide the features, limitations and considerations associated with operating a computer-aided design/drafting (CAD) system (AutoCAD 2000). Students will review AutoCAD I commands continuing on to Display to Paper - 3D Modeling and Beyond. Prerequisite: MF 221 or permission of the instructor. (Lab fee) (F, Sp)

MF 223 AutoCAD IV 3 credits

This course will be a continuation of MF 222 covering advanced topics to meet individual student needs. Prerequisite: MF 222 or permission of the instructor. (Lab fee) (F, Sp)

MF 225 Advanced Programmable Logic Controllers 3 credits

This course provides students with the advanced skills and applications of Programmable Logic Controllers used in increasing quantities in the industrial process today. Training in timers, counters, and data manipulation will be covered. Prerequisite: Requires completion of vo-tech Industrial Maintenance program, appropriate prior experience, or instructor permission. (Lab fee) (Sp)

MF 230 Human/Machine Interfacing I 3 credits

This course will give the student entering into industry the necessary skills to operate, program and troubleshoot the new Human/Machine Interfaces currently being introduced and installed in industry applications. Prerequisite: Requires completion of vo-tech Industrial Maintenance program, appropriate prior experience, or instructor permission. (Lab fee) (F)

MF 231 Human/Machine Interfacing II 3 credits

Prerequisite: MF 230 (Sp)

MF 235 Industrial Robotics 3 credits

This class provides students with the skills and applications of Industrial Robots used in increasing quantities in the manufacturing process today. Programming, integration into current systems, flexible manufacturing and production topics, as applied to robots, will be covered in this course. MF 220 and MF 221 may be substituted with advisor

approval. Prerequisite: Requires completion of vo-tech program or appropriate experience and instructor permission. (Lab fee) (Sp)

MF 240 Advanced Motor Controls 3 credits

This class provides students with advanced motor control skills, control panel wiring, frequency drives, timers and counters will be studied. Prerequisite: Completion of AVTS program or instructor permission. (F)

MF 251 Statistical Process Control 3 credits

A study of Statistical Process Control to improve the quality of products in industry. Course discusses the need for S.P.C. instruction in the use of X and R charts, attribute charts and methods of chart analysis. (DD)

MF 272 Manufacturing Tech Internship III 2 credits

Prerequisite: MF 173 (DD)

MF 273 Manufacturing Tech Internship IV 2 credits

Prerequisite: MF 272 (DD)

MF 299 Special Topics in Manufacturing Technology 1-5 credits

This course is offered on various special topics, with specific content indicated by course subtitle. Credit hours are determined by contact hours, activities and assignments as appropriate to content. The course may be repeated if the content varies. Prerequisite: Consent of instructor. (DD)

MATHEMATICS

NOTES: College preparatory courses in mathematics can be found in the Developmental Studies section.

Placement scores must be three years old or less for placement in math and physical science courses.

MT 110 Intermediate Algebra 3 credits

Student learning outcomes include: basic algebra fundamentals, linear equations, linear inequalities, linear functions and their graphs, systems of equations and inequalities, operations with polynomial functions and factoring, quadratic equations and functions and their graphs, operations with rational expressions, and radical equations. This course will use algebra to model and solve real-world problems. Prerequisite: DS 049 Basic Algebra or appropriate ACT or placement test score. (F, Sp, Su)

MT 121 Math Concepts **3 credits**

Student learning outcomes include: basic concepts of set theory, numeration and mathematical systems, number theory, real number operations, applications of fractions, decimals, and percents, basic concepts of algebra, graphs, functions, systems of equations and inequalities, and geometry. Recommended for Elementary Education majors. Prerequisite: MT 110, Intermediate Algebra or appropriate ACT or placement test score. (F, Sp, DD)

MT 122 College Algebra **3 credits**

Student learning outcomes include: graphing, analyzing, and solving linear, quadratic, polynomial, rational, logarithmic and exponential functions and equations, solving systems of equations and inequalities, matrices, and other topics as time permits. Prerequisite: MT 110 Intermediate Algebra or appropriate ACT or placement test score. Satisfies general education mathematics requirement; consult transfer catalog for specific program math requirements. (F, Sp, Su)

MT 123 Finite Mathematics **3 credits**

This course utilizes a practical application approach to the following: linear and quadratic equations, graphs and functions including exponential and logarithmic functions, mathematics of finance, annuities, sinking funds and mortgages, linear programming, counting methods and probability, basic statistics, and other topics as time permits. Prerequisite: MT 122 or appropriate ACT or placement test score. (Sp, DD)

MT 125 Elementary Statistics **3 credits**

This course provides students with a valuable framework in which to learn and apply statistical concepts. Student learning outcomes include but are not limited to: the nature of probability and statistics, frequency distributions and graphs, data description, confidence intervals, hypothesis testing, correlation and regression. Prerequisite: MT 110 Intermediate Algebra or appropriate ACT or Placement test score. Satisfies general education mathematics requirement; consult transfer catalog for specific program math requirements. (F, Sp, DD)

MT 132 Trigonometry **3 credits**

Student learning outcomes include: geometric foundations of trigonometry, unit circle, graphs of trigonometric functions, identities, equations and inequalities, inverse functions, law of sine and cosine, vectors, complex numbers and DeMoivre's theorem. Prerequisite: MT 110 Intermediate Algebra or appropriate ACT or placement test score. (DD)

MT 148 Pre-Calculus **5 credits**

This is a preparatory course for the Calculus sequence. Student learning outcomes include: algebraic, trigonometric, exponential and logarithmic equations and inequalities; systems of equations and inequalities; matrices; solutions of triangles; inverses of algebraic and trigonometric functions, trigonometric identities; and an introduction to analytic geometry. Prerequisite: MT 110, Intermediate Algebra with an A or B, or ACT or ASSET or Compass scores as required for College Algebra/Trigonometry. MT 122, College Algebra is recommended. This course is offered in the fall as a prep course for Geometry and Calculus I. (F)

MT 150 Geometry & Calculus I **5 credits**

Introduction to Calculus and Analytic Geometry designed for students in engineering, economics, life and physical sciences, and mathematics, focusing on functions, limits and their properties, differentiation, integration, including logarithmic and exponential functions. Prerequisites: MT 122 and MT 132 or MT 148 or consent of instructor. (Sp, DD)

MT 222 Discrete Mathematics **4 credits**

This course is an introduction to discrete models. Topics include: sets, symbolic logic, relations, combinatorics, mathematical induction, probability, matrices, graph theory and Boolean algebra. Prerequisites: MT 122 or MT 148. (DD)

MT 250 Geometry & Calculus II **5 credits**

This course is a continuation of Geometry & Calculus I. It includes techniques and applications of the integral, sequences, series, polar functions, conic sections and additional topics as time permits. Prerequisite: MT 150. (F, DD)

MT 260 Geometry and Calculus III **5 credits**

This course is a continuation of Geometry and Calculus II. It includes the study of solid analytic geometry, vectors and vector calculus, partial differentiation, and multiple integrals. Prerequisites: MT 250. (Sp, DD)

MT 270 Special Topics in Mathematics **1-3 credits**

This course is offered on various special topics, with specific content indicated by course subtitle. Credit hours are determined by contact hours, activities and assignments as appropriate to content. The course may be repeated if the content varies. Prerequisite: Consent of instructor. (DD)

MUSIC

MU 101 Applied Voice **1 credit**

This course is for students who have little or no training in voice. The class will help students develop and understand vocal technique and basic musicianship.

MU 103 Chorus I **1 credit**

A vocal ensemble for all interested in choral singing. Music representative of all periods, and both secular and sacred is used at the director's discretion. This class is called upon to perform on various occasions. (DD)

MU 104 Chorus II **1 credit**

A continuation of Chorus I. (DD)

MU 109 Music Appreciation **3 credits**

An introductory course concerned with the elements of music, the important musical masterpieces and the significant composers up to the present age. A portion of the class time is devoted to listening to recordings. Humanities credit. (F, Sp, Su)

MU 110 Applied Music **1 credit**

Private instruction for credit. Students are expected to pay a variable fee to the private instructor over and above the cost of course credit. Students must complete 30 hours of instruction to earn one credit hour. Maximum 4 credits, 1 credit per semester. Prerequisite: written permission of Associate Dean of Arts and Science. This does not meet any general education requirements. (DD)

MU 140 American Folk Music **3 credits**

A course concerned with the forms and elements of the musical traditions of various immigrant groups which contributed to America's folk heritage. Humanities credit. (DD)

MU 203 Chorus III **1 credit**

A continuation of Chorus II. (DD)

MU 204 Chorus IV **1 credit**

A continuation of Chorus III. (DD)

NURSING

Nursing courses are restricted to students accepted to the NCMC Nursing Program.

NR 104 Basic Nutrition (Level I) 3 credits

This course will cover both normal and therapeutic nutrition. It will particularly focus on what knowledge the Nursing Professional will need to participate in the Nutritional Care Plans, and nutritional outcomes of patients and/or clients in various healthcare settings. (Sp)

NR 105 Introduction to Mental Health Nursing 1 credit

A course designed to introduce the student to the knowledge, skills, and attitudes essential to mental health nursing. Utilization of critical thinking and therapeutic communication skills are emphasized as chief components in delivery of safe nursing care in a dynamic, culturally diverse, multidisciplinary, healthcare environment. The nursing process is utilized as the framework from which to construct the foundation for planning and implementing nursing care to a mentally ill client and his/her family. (F)

NR 108 Foundations of Nursing I (Level I) 2 credits

A course teaching basic principles and procedures for patient care and their association with common illnesses, rehabilitation processes and the principles of long-term care. Current certification as Certified Nurse Assistant in the state of Missouri meets requirements of this course. Successful completion of Foundations II is required before advanced credit is awarded for Foundations I. Taught concurrently with NR 109. (F)

NR 109 Foundations of Nursing II (Level I) 7 credits

A course designed to introduce the student to the knowledge, skill and attitudes essential to provide safe and appropriate nursing care to a multicultural population. Clinical experience will focus on providing safe and appropriate patient care, communication, patient teaching, documentation and a lifelong commitment to learning through multidisciplinary hospital and community based experiences. Successful completion of Foundations I and II is required for the Level I program. Taught concurrently with NR 108. (F)

NR 113 Personal & Vocational Concepts (Level I) 1 credit

This is a non-clinical course designed to assist the student in making an adjustment to the role of becoming a member of the healthcare team in a community based system. Focus is placed on developing an understanding of the role and responsibility of a Licensed Practical

Nurse capable of using critical thinking skills, the Nursing Process and therapeutic communication skills. Emphasis is placed on personal and professional growth and the commitment to education is a lifelong learning experience. Discussion of the impact of cultural and spiritual differences in a multidisciplinary setting is included. (F)

NR 116 Family & Community Living (Level I) 1 credit

A non-clinical course designed to introduce the student to the knowledge, skills and attitudes essential to provide safe and appropriate nursing care to a multicultural population in a home or community based setting. The Nursing Process and Maslow's Hierarchy of Needs are the primary conceptual framework utilized and reinforced through critical thinking activities, while emphasizing adaptations made for the influence of nontraditional health practices and settings. Communication is stressed as the key to a multidisciplinary approach to healthcare. Emphasis is placed on lifelong learning. (F)

NR 117 Pharmacology 4 credits

A course designed to provide the student with the knowledge of pharmacology and its application in nursing. Study focus is on the major categories of pharmacological agents, their actions, side effects, uses, and nursing responsibilities. Mathematics skills are employed for the purpose of safe medication administration. Nursing process, critical thinking, and therapeutic communication in a community-based healthcare system are included. Cultural and ethnic variations in relation to medication administration in a multidisciplinary healthcare system are addressed. Emphasis is placed on committing to lifelong learning in a continually changing healthcare environment. (F)

NR 120 Geriatrics 2 credits

This course is designed to introduce the student to the physiologic, psychologic and sociologic aspects of the normal aging process. Emphasis is placed primarily on the biological aspects of aging. However, interpersonal relations, retirement and socioeconomic factors impacting and impacted by the aging population are explored. Clinical experience in geriatrics is included in the medical-surgical clinical rotations. (F)

NR 121 Nursing of Adults I (Level I) 11 credits

A course designed to provide the student with the knowledge of diagnosis, treatment and rehabilitation of medical-surgical conditions and diseases of body system of the adult. Using a multicultural approach, the Nursing Process and Maslow's Hierarchy of Needs are the primary conceptual frameworks utilized and reinforced through critical thinking activities. Clinical experience will focus on providing safe and appropriate patient care, communication, patient teaching, documentation and a

lifelong commitment to learning through multidisciplinary hospital and community based experience. Emphasis is placed on health maintenance and illness prevention. (Lab fee, Clinical fee) (Sp)

NR 129 Maternal Child Nursing I (Level I) 6 credits

An introduction to family centered healthcare for the antepartum, intrapartum and postpartum period utilizing the Nursing Process as the conceptual framework. The impact that culture has on the pregnant woman and her family along with normal and abnormal cases are discussed. Appropriate nursing care is identified by using previously acquired knowledge and application of critical thinking skills. Clinical experience is focused on providing appropriate patient care, communication, patient teaching, documentation and a lifelong commitment to learning through multidisciplinary hospital and community based experiences. (Lab fee, clinical fee) (Sp)

NR 162 Nursing of Adults II (Level I) 6 credits

This course is a continuation of Nursing of Adults I and is a course designed to provide the student with the knowledge of diagnosis, treatment and rehabilitation of medical-surgical conditions and diseases of body system of the adult. Using a multicultural approach, the Nursing Process and Maslow's Hierarchy of Needs are the primary conceptual frameworks utilized and reinforced through critical thinking activities. Clinical experience focuses on providing safe and appropriate patient care, communication, patient teaching, documentation and a lifelong commitment to learning through multidisciplinary hospital and community based experiences. Emphasis is placed on health maintenance and illness prevention. (Clinical fee) (Su)

NR 183 Maternal Child Nursing II (Level I) 5 credits

This course is designed to study the growth and development of a child from birth through adolescence. Normal and abnormal cases in multidisciplinary and community based settings are discussed. The impact that culture has on the lives of children and their families is included. Appropriate nursing care is identified by utilization of the Nursing Process and critical thinking skills. Emphasis is placed on patient and family teaching using effective communication skills. Pediatrics is a dynamic area, therefore, it is essential for the nurse to make a commitment to lifelong learning. Clinical experience will focus on providing safe and appropriate nursing care. (Clinical fee) (Su)

NR 226 Special Topics in Nursing 1-5 credits

Offered occasionally on various special topics, with specific content indicated by course subtitle. Credit hours determined by contact hours, activities and assignments as appropriate to content. (DD)

NR 230 Trends & Issues in Nursing (Level II) 1 credit

A seminar course directed at professional, legal and ethical influences relative to the nursing role. Content includes identification and discussion of current practices and emerging trends which affect the role of nursing in the healthcare delivery system. (F)

NR 242 Mental Health Nursing (Level II) 3 credits

A basic course in the fundamental concepts of human behavior as related to mental illness, and the specific body of knowledge pertinent to the nursing role in the treatment of the psychologically ill individuals in a multicultural population. Clinical experience is obtained through multidisciplinary hospital and community based experiences which provide life long learning experiences for the mental healthcare needs of individuals. The focus of the clinical is upon the development of therapeutic communication skills, recognition of DSM mental disorders, proper psycho pharmacological and therapy interventions, utilization of the nursing process, and personal and professional development. (Clinical fee) (Sp)

NR 250 Maternal Child Nursing III (Level II) 4 credits

This course focuses on the normal and abnormal physiology, psychology, and psychosocial processes pertaining to reproduction. The nursing process is employed as the framework from which to plan and implement care during the antepartum, intrapartum and postpartum phases of childbirth. Utilization of critical thinking and effective communication skills is stressed as chief components in the delivery of safe nursing care in a dynamic, culturally diverse, and multidisciplinary, healthcare environment. Pharmacology, diet therapy, discharge planning, and psychosocial variables of nursing care are integrated throughout the course. Clinical experience is obtained in hospitals and community based healthcare settings. Value is placed on a commitment to lifelong learning. (Clinical fee) (F)

NR 251 Maternal Child Nursing IV (Level II) 4 credits

This course focuses on the normal and abnormal physiology, psychology, and psychosocial processes pertaining to growth and development from infancy through adolescence. The nursing process provides the foundation from which to plan and implement safe nursing care which supports the family unit. Physiological and behavioral changes that relate to child rearing are examined with emphasis on health and its promotion. Nursing management of the family and utilization of critical thinking, making sound nursing judgments is integrated throughout the course. Patient teaching, discharge planning, and follow up care of the family within a multicultural community is addressed. Time is spent in review, practice, and validation of skill competency in the skill laboratory.

The clinical setting emphasizes health maintenance and promotion for the family. Clinical experiences are in acute, outpatient, and community based settings. A lifelong commitment to learning is stressed. (Sp)

NR 253 Nursing of Adults III (Level II) 7 credits

A continuation in the study of disease processes with an emphasis on health and its promotion. Nursing management of the adult, utilizing critical thinking and the Nursing Process is found throughout the course. Dietary and pharmacologic management are integrated throughout the course. Patient teaching, discharge planning and follow-up care of the adult and aging population within a multicultural community are addressed. Time is spent in review, practice and validation of skill competency in the skill laboratory. Clinical experiences are spent in acute, outpatient and community based settings. Learning experiences are centered on meeting the total needs of the patient and family. Emphasis on self-reliance, productivity and lifelong commitment to learning is stressed. The student may have experiences in specialty settings. (Lab fee, clinical fee) (F)

NR 258 Nursing of Adults IV (Level II) 7 credits

A continuation in the study of disease processes with emphasis on health and its promotion. Nursing management utilizing critical thinking and the Nursing Process is used throughout the course. Dietary and pharmacologic management will be integrated throughout the course. A more complete and comprehensive assessment, plan, implementation and evaluation of care are required. Emphasis on leadership skills and time management are addressed throughout the course. Clinical experiences are focused on leadership skills, critical thinking situations and emphasis on the need for self-reliance, productivity and lifelong commitment to learning. Clinical experiences are spent in acute, outpatient and community based areas. The student may be given experience in specialty areas. Patient teaching and a discharge planning assignment with follow-up care to a multicultural aging community are required. (Clinical fee) (Sp)

NR 295 Leadership in Nursing (Level II) 2 credits

Study of principles and techniques underlying nursing leadership and management. Focuses on how to work with people, as individuals or as members of groups, teams, organizations and even whole communities. The course focuses on leadership skills, critical thinking situations, priority setting, time management and communication. (F)

PHARMACY TECHNOLOGY

PM 101 Pharmacy Calculations 3 credits

Accuracy in calculation is essential to safe pharmaceutical practice. This course will help broaden a student's knowledge in pharmacy calculations thus allowing them to provide assistance to pharmacists. You will master accurate computation in dispensing, pricing, systems of measure, introduction to compounding (focuses on the art of making and preparing medication) and parenteral products as they apply in pharmacy. Study focus is on core concepts and the foundation of what every pharmacy technician needs to know to ensure safe medication administration. Mathematics skills, critical thinking, therapeutic communications in community-based healthcare system are included. (F-even years)

PM 105 Pharmacy Practice I 4 credits

You will be introduced to the role of pharmacy, the pharmacist and the pharmacy technician in the healthcare delivery system. The course incorporates the history of pharmacy practice, law & ethics, terminology, routes, dosage formulations, Anatomy & Physiology, medications and operations of community based and institutional pharmacies. Cultural and ethnic variations in relationship to medications in a multidisciplinary setting are addressed. Emphasis is placed on committing to lifelong learning in a continually changing environment. Lecture and laboratory. (Lab fee) (Sp-odd years)

PM 205 Pharmacy Practice II 4 credits

This course is a continuation of Pharmacy Practice I (PM105). It builds on prior knowledge. The course incorporates sterile product preparation, aseptic technique, required equipment, TPN, chemotherapy, quality control and assurance and compounding mixtures and dilutions. Lecture and laboratory. (Lab fee) (F -odd years)

PM 210 Pharmacy Technician Internship Seminar 5 credits

The student will purchase the Pharmacy Technician Training System from Pass Assured LLC. The CD utilizes multimedia such as audio, video and graphics. The CD provides realistic practice tests. The material covers all areas the pharmacy technician will need to know for passing certification exams (laws, medical review, aseptic techniques, calculations and pharmacy operations). (Sp-even years)

PM 220 Pharmacy Technician Internship 4 credits

This course teaches the Pharmacy Technician student the principles and importance of pharmacy technician procedures; accurate computation

in dispensing, pricing, systems of measure, compounding mixtures and solutions, preparing parenteral products, aseptic techniques, law & ethics and operations of community based and institutional pharmacies.

The internship is to provide the student with real-life experiences with an opportunity to practice learned theory and clinical skills. Students will work under supervision at the internship site. The benefits to the students include the opportunity to practice learned theoretical and clinical skills, by being exposed to different situations and to have the opportunity to demonstrate (at their internship site) their abilities, which could lead to future employment.

During the 180 hours of the internship, your relationship with other professionals and consumers of services in hospitals and the community will be emphasized. (Sp-even years)

PHILOSOPHY

PH 101 Ethics 3 credits

This course examines the major theories of value and moral obligation, and how they illuminate such contemporary issues as abortion, euthanasia, sexual morality, discrimination, medical ethics, privacy, individual freedom, violence and war. Humanities credit. (F, Sp, Su)

PH 102 Introduction to Philosophy 3 credits

This study of philosophy will expose the student to critical thinking and help in the understanding of such fundamental questions as these: How do we know? (epistemology); What is real? (metaphysics); and What is of value? (axiology). Readings from the major philosophers are included. Humanities credit. (F, Sp, Su)

PHYSICAL EDUCATION

A maximum of two hours of physical education activities will apply toward any degree.

PE 101 Golf I 1 credit

An activity class intended to acquaint students with golf rules and protocol while developing skills in driving and putting. (Lab fee) (Su)

PE 102 Tennis I 1 credit

An activity class intended to teach tennis scoring and develop physical skills in the serve and ground strokes. (DD)

PE 104 Varsity Sports I 1 credit

A course for students participating in intercollegiate baseball, softball, men's and women's basketball and cheerleading. Prerequisite: Consent of the coach. (F, Sp)

PE 105 Health Education 2 credits

A course that addresses personal health concerns from a holistic standpoint and emphasizes strategies to adapt or change our behavior to promote health and prevent disease. (Not applicable to medical curriculum). (F, Sp, Su)

PE 106 Weight Training I 1 credit

The course is designed to teach students weight lifting techniques, different weight training systems, a variety of exercises, muscle groups and how each affects the body. Weight lifting terminology will also be introduced. (F, Sp)

PE 107 Aerobics I 1 credit

A coed fitness class designed to improve physical fitness and weight control through group aerobic exercises and dietary pattern. (DD)

PE 108 Volleyball I 1 credit

The course is designed to teach the students the game of volleyball. The students will also learn fundamentals, techniques, rules, strategy and volleyball terminology. (F, Sp)

PE 109 Softball 1 credit

An activity course teaching scoring, proper techniques and the importance of softball as a lifetime fitness sport. (Sp)

PE 110 Canoeing 1 credit

An activity course designed to teach the fundamental principles and techniques of canoeing and gain an appreciation for the activity. Experiential learning is obtained on a two-day float trip. This course is physically demanding and takes an adequate level of fitness to participate. Course may be taken up to two times for a total of two credit hours. (Lab fee) (Su)

PE 111 Bowling I 1 credit

An activity course teaching scoring, property techniques and the importance of bowling as a lifetime fitness sport. (Lab fee) (DD)

PE 112 Sports Officiating 2 credits

A course designed to qualify officials, addressing officiating ethics, sports psychology and strategies. (DD)

PE 113 Lifetime Activities 1 credit

This course is to acquaint students with a wide variety of physical fitness type activities that can be enjoyed throughout their lifetimes. Individual and group activities including: canoeing, swimming, fishing, badminton, jogging, biking, hiking, country and western dance, etc. may be covered. (DD)

PE 114 Hunter Safety & Trap 2 credits

A course teaching the proper handling of firearms. Successful completion qualifies the student for a Missouri Hunters License certificate. Range safety, operation and proper shooting techniques taught and practiced. (DD)

PE 115 Team Sports I 1 credit

An activity course designed to teach scoring, proper technique, rules and strategy for softball, flag football and soccer. (DD)

PE 116 Karate I 1 credit

This course is designed to instruct students in the techniques and skills of Shotokan Karate. Emphasis will be on physical conditioning and mental concentration. (F, Sp)

PE 117 Personal Fitness 1 credit

The purpose of this course is to provide the student instruction in individual fitness and wellness. Emphasis is placed on cardiovascular endurance, muscular strength and muscular endurance. Other components will include designing and implementing a personal exercise prescription in relation to individual goals. May be taken up to two times for a total of two credit hours. (F, Sp)

PE118 Mountain Biking 1 credit

Mountain Biking is an active participation course that will supply individuals with basic, essential knowledge about the sport of Mountain Biking.

PE 123 Horseback Riding I 1 credit

An activity class designed to introduce the student to horseback riding. Emphasis is placed upon basic skills of horsemanship, rules of safety and the care of horses. (Lab fee) (Sp)

PE 124 Horseback Riding II 1 credit

A continuation of Horseback Riding I. (Lab fee) (DD)

PE 131 First Aid/CPR 3 credits

A course teaching information and developing skills necessary for a person to provide initial care for a wide range of injuries and emergencies including CPR certification.

PE 134 Sport Safety Training 0.5 credits

This course will provide coaches, officials, athletes and parents with the knowledge and skills necessary to provide a safe environment for athletes and, in an emergency, to help sustain life and minimize the consequences of injury or sudden illness until medical help arrives. (DD)

PE 201 Golf II 1 credit

A continuation of Golf I. (DD)

PE 202 Tennis II 1 credit

A continuation of Tennis I. (DD)

PE 204 Varsity Sports II 1 credit

Second season participation of Varsity Sports. (F, Sp)

PE 206 Weight Training II 1 credit

A continuation of Weight Training I. (F, Sp)

PE 207 Aerobics II 1 credit

A continuation of Aerobics I. (DD)

PE 208 Volleyball II 1 credit

A continuation of Volleyball I. (DD)

PE 211 Bowling II 1 credit

A continuation of Bowling I. (DD)

PE 215 Team Sports II 1 credit

A activity course designed to teach scoring, proper technique, rules and strategy for basketball, volleyball and team handball. (DD)

PE 216 Karate II 1 credit

A continuation of Karate I. (DD)

PE 220 Introduction to Recreation 3 credits

An introductory course designed to provide an analysis of the total field of recreation and leisure. The course includes description of its current scope and organizational practices; as well as the historical, sociological, psychological, philosophical and economic aspects of recreation and leisure. (F)

PE 230 Recreation Development 3 credits

This course is designed to give the student an overview of the principles of program planning and roles of the leader, administrator and community in program planning. Special considerations or programs are necessitated by various recreational settings, short-term seasonal, and year-round program planning. (Sp-every other year)

PE 240 Techniques of Recreation Leadership 3 credits

This course is designed to develop student competencies in the area of recreation leadership. The course will emphasize a theoretical understanding of leadership principles and techniques and will provide opportunities for practical application of these principles. (Sp-every other year)

PE 250 Recreation Internship 3 credits

The recreation internship is designed to provide the student with practical, on-the-job training in the recreation field. The internship will include 150 contact hours by the student. (F, Sp by arrangement)

PE 260 Foundations of Physical Education 3 credits

A study of the field of physical education/health, its foundational principles, aims, objectives, contributions, future directions, problems and career possibilities.

PHYSICAL SCIENCE

NOTES: For other physical science courses, see course descriptions under Chemistry (CH).

Placement scores must be three years old or less for placement in math and physical science courses.

PS 101 Introduction to the Physical Sciences 4 credits

A survey course for non-science majors introducing the important concepts that govern the fields of physics, chemistry, meteorology, geology and astronomy. The impact of these sciences on the environment and human activities will also be considered. This course satisfies the general education physical science requirement. Lecture and laboratory. Prerequisite: DS048 or equivalent. (Lab fee) (F, Sp, Su)

PS 104 Special Topics in Physical Science

1-3 credits

Independent study on a current topic in the physical sciences as demand warrants. Credit hours determined by the number of in class contact hours and any activities assigned outside the classroom appropriate to content. (DD)

PS 108 Introduction to Physics

4 credits

A course in physics surveying the fundamental concepts of mechanics, waves, electricity, magnetism and optics. Does not meet general education physical science requirement. Lecture and laboratory. Prerequisite: DS049. (Lab fee) (DD)

PS 185 College Physics I

4 credits

A rigorous non-calculus introductory physics course primarily for students majoring in the life and environmental sciences and science education. A classical treatment of Newtonian mechanics, fluids, heat and thermodynamics. This course satisfies the general education physical science requirement. Lecture and laboratory. Prerequisite: MT122; pre - or co-requisite: MT148 or MT132. (Lab fee) (F, Su)

PS 186 College Physics II

4 credits

A continuation of College Physics I. Topics to be covered include sound and waves, electricity, magnetism, optics, and topics in modern physics as time permits. Lecture and laboratory. Prerequisite: PS 185. (Lab fee) (DD)

PS 210 General Physics I

5 credits

Calculus-based physics designed for those students majoring in Chemistry, Physics or Engineering. The fundamental principles and theories of classical physics topics including kinematics, dynamics, statics, fluids, oscillations, wave mechanics and thermodynamics, based on calculus and vector manipulations. A laboratory course is included to emphasize and reinforce the principles and theories. Prerequisite: MT150 and Co-requisite: MT250.

PS 212 General Physics II

5 credits

Continuation of General Physics I (PS 210). The fundamental principles and theories of classical physics topics including, electricity, electrostatics, elementary circuits, magnetism, electromagnetic phenomena, optics and modern physics, based on calculus and vector manipulations. A laboratory course is included to emphasize and reinforce the principles and theories. Prerequisite: PS210, MT150 and MT250.

POLITICAL SCIENCE

PL 105 Missouri Constitution 1 credit

A survey of the history and content of the Missouri Constitution, its similarities and differences with the federal constitution, and its relevance today. Not open to students with credit for HII03, PL216 or any other course that covered instruction in Missouri State Constitution. (DD)

PL 116 State and Local Government 3 credits

A survey of the political forces which shape policy outcomes in states and local communities. Because of its impact on all levels of government, Federalism is treated in considerable detail. The question of who should provide leadership and the explorations of the roles of state legislatures, governors and judges, and the several variations, also are treated. (DD)

PL 216 National Government 3 credits

A basic introductory course to acquaint the student with the workings of the national government and the political system which bolsters it. Emphasis is placed on governmental structure, using the historical approach to answer the questions as to why the United States system has developed in the manner that it has. The Constitution is dealt with in detail as the source of governmental power (Meets the Constitutional Requirements). Prerequisite: Appropriate score on ACT, ASSET, Compass or SAT, or successful completion of DS 015. (F, Sp, Su)

PSYCHOLOGY

PY 121 General Psychology 3 credits

A survey course dealing with the basic facts and principles of human behavior, providing an understanding of why and how people think and act as they do, emphasizing the manner in which the environment influences people. (F, Sp, Su)

PY 201 Career Development in Psychology 2 credit

This course is designed to provide a broad overview of the career opportunities in psychology. It will focus on career exploration, setting goals, developing strategies and choosing a transfer institution. The course will explore the role of psychology majors in the workplace and how to prepare for and succeed in a career. Prerequisite: PY 121 General Psychology. (DD)

PY 214 Social Psychology 3 credits

This course can be applied to either the sociology or psychology requirement. The course considers individual behavior in relation to society and includes theoretical foundations, socialization, social

cognition, group dynamics and leadership. Prerequisite: PY 121 or SO 107. (Sp)

PY 219 Adult Development and Aging 2 credits

This course focuses on the physiological, cognitive, personality and psychosocial development of middle and late adulthood. Emphasis is placed on the problems and concerns of aging, such as, interpersonal relations, retirement, the economy, psychopathology, and death and dying. Prerequisite: PY 121. (DD)

PY 220 Psychology of Supervision 3 credits

This is a basic course in psychological principles, as they apply to industrial supervision. The areas covered in the course will include motivation, conflict resolution, team building, interpersonal communication, leadership skills, ethical behavior and cross-cultural diversity. (DD)

PY 224 Psychology of Personal Adjustment 3 credits

A survey of major problems dealing with the normal person's adjustment to his or her social environment and social presentation. Emphasis is placed upon understanding the self and the manner in which the self operates to affect others through interaction. Prerequisite: PY 121. (DD)

PY 225 Child Psychology 3 credits

Psychological basis of child growth and development, with emphasis on the emotional, mental, physical and social needs of childhood including an analysis of the factors in the home, school and community which influence behavior and personality. Prerequisite: PY 121. (F, Sp, Su)

PY 226 Adolescent Psychology 3 credits

A course focused on physical, intellectual and emotional changes that occur during adolescence. Included is an examination of the unique problems and risks involved as the adolescent develops personal values, behavior patterns, sexuality and morality. Prerequisite: PY 121. (DD)

PY 230 Abnormal Psychology 3 credits

A descriptive course detailing the etiology, prevalence and types of psychological disorders. Topics include theoretical models and behavioral abnormalities, neurosis, psychosis, personality disorders, organic dysfunctions and types of psychotherapy. Prerequisite: PY 121. (F)

PY 233 Human Growth & Development 3 credits

A study of human development across the life span. The focus is on clearly-defined stages of life, each with its own unique problems, concerns and solutions. The history, research methods, theories, technology and terminology related to the study of human development are discussed. Prerequisite: PY 121. (Sp)

PY 235 Independent Research in Psychology 1-3 credits

Research on selected topics or problems, on an individual conference basis. Students may opt to present their research at regional or national conventions. This course may be repeated for one additional credit hour. Prerequisites: PY 121, English II and consent of instructor. (DD)

PY 245 Advanced General Psychology 3 credits

This course is a survey of the field of scientific psychology, emphasizing the methods used in conducting research and in data analysis. The purpose is to give students a scholarly framework with which to view psychology as a biological and social science. Recommended for second year students. Prerequisite: PY 121 (DD)

PY 290 Psychology Practicum 1-3 credits

Open to second-year students. Field experience under the supervision of trained professionals in the field of psychology. Ninety-six contact hours required for 3 credit hours. Prerequisite: PY 121, consent of instructor and PY 230 as prerequisite or co-requisite. (DD)

PY 295 Advanced Psychology Practicum 1-3 credits

Students will apply principles and issues learned in Psychology Practicum by working with a qualified and experienced therapist. The course is designed to give the student relevant, practical experience in a setting appropriate to his or her professional goals. Prerequisites: PY 121, PY 290, minimum 3 credits in PY 225, PY 226, PY 230 or PY 233, and consent of field supervisor and psychology department chair. (DD)

REAL ESTATE

RE 101 Real Estate Seminar 1 credit

The course is designed to provide licensees with information which will enable them to conduct real estate transactions in a legal and professional manner in order to better serve their client's interest and meet Missouri's continuing education requirements. (DD)

RE 175 Principles of Real Estate 4 credits

A survey of the legal aspects of real estate sales and ownership with emphasis on terminology, property rights, contracts, mortgages, deeds, conveyances, leases, insurance and real estate license laws. Preparation for state licensure. (DD)

RELIGION

RL 101 Introduction to Religion 3 credits

This course introduces the student the richness and variety of religious expressions around the world. Further, the student will be introduced to the theology and practices of the religions studied. The student will have an opportunity to analyze and compare religious systems. The student will be prepared to better understand contemporary religious issues and conflicts. Humanities credit. (DD)

RL 110 Introduction to the Old Testament 3 credits

This course will give the student an introduction to the history of the Hebrew people and an introduction to the construction and content of the Old Testament. (DD)

RL 131 New Testament Survey 3 credits

A study of the New Testament with particular attention given to the types of literature, background and authors of the New Testament. It will be studied in light of the social, political and religious forces which shaped it. (DD)

SOCIAL SCIENCE

SO 107 General Sociology 3 credits

A survey course concerned with the study of human relationships in groups and of the structures and organizations that develop within human society. Emphasis is placed on various social phenomena and the theories which attempt to explain them. (F, Sp, Su)

SO 118 Special Topics in Social Science 3 credits

Varied topics. (F, Sp)

SO 201 Marriage and the Family 3 credits

This course is designed to represent an analysis of the institution of the family and to provide an opportunity for the student to objectively study such basic phenomena as courtship patterns, marriage forms and socialization techniques. (F)

SO 202 Parenting Today 1 credit

A self-study course designed to allow students to read and write about a variety of issues today's families face, including divorce, discipline, scheduling, safety and toilet training. Students will develop comprehensive, critical analysis, and parenting skills. (Pass/Fail) (F, Sp)

SO 210 Social Problems 3 credits

This course discusses social problems such as violence, gender inequality, education and environment. It examines how social structure and culture of society contribute to social problems and their consequences. This course develops an understanding of the social forces that contribute to these problems, which leads to designing strategies for action. Prerequisite: SO 107, General Sociology. (Sp)

SO 230 People & Cultures of the World 3 credits

A course to give an American look at the anthropological study of world cultures. Cultural metaphors will be used as a method for understanding the cultural mindsets of a nation, a cluster of nations, and even a continent to quickly understand what members of a culture consider important. General types of cultures such as authority ranking, equality matching, market pricing, cleft, torn. Cultural characteristics including religion, politics, gender, language, food, and history of the countries will also be examined. (Sp)

SO 231 Experiencing Culture 1 credit

This course is designed to allow students to read about a variety of issues in another culture and then experience the culture by traveling to the selected country. The course will give students skills on relating with cultures other than their own. Pre/Co requisite: SO 230 (DD)

SO 250 Introduction to Social Work 4 credits

Introduction to Social Work provides students with an overview of professional social work practice including its history, philosophy, ethics, values, methods and fields of practice. Forty hours of volunteer experience required in an area human service agency. Prerequisites: PY121 or SO107 or instructor approval. (Sp)

SO 298 Deviant Behavior 3 credits

A course to look at the problems of breaking norms set by culture and society. Through this examination, students will explore several sociological theories behind crimes and other deviant behaviors. Some topics include domestic violence, mental illness, drug and alcohol usage, organized crime, sexual crimes, suicide and other deviant acts found in American society today. Prerequisite: SO 107 (F,Sp)

SPEECH

SP 150 Studies in Communication 1-3 credits

A special topics course in communication which may include interpersonal communication, nonverbal communication, advanced oral interpretation, theatre practice or forensics. The subtitle on the schedule of courses for a particular semester indicates specific content. Credit varies from one to three hours. The course may be repeated if the content changes. (DD)

SP 170 Interpersonal Communications 3 credits

Development of interpersonal competence within theoretical frameworks of Symbolic Interaction and Transactional Analysis. Emphasis is upon strengthening “counting self/counting others” perspective through utilizing self-disclosure, listening and conflict management skills Does not meet general education core requirements. (DD)

SP 175 Speech Communications 3 credits

Learn how to better think and act as a public speaker by preparing the presenting speeches. Application of content and self assessment are principle learning strategies in this introductory course. The message-creation process stresses thinking broadly and deeply about the subject. The delivery approach emphasizes interactive skills and attitudes. Meets general education requirement. (F, Sp, Su)

SP 176 Oral Interpretation 3 credits

Study and oral reading of prose, drama and poetry. Performances for audiences beyond the classroom provide practical experience. Understanding literature and developing self-confidence are important aspects of the course. (DD)

SP 177 Oral Interpretation Practicum 1 credit

Experience in preparing readings and performing them for area audiences. Instructor approval is required. (DD)

SP 178 Speech II 3 credits

Continuation of Speech Communication: Development of method for growth as a public speaker. Focus on persuasion and media presentations. Prerequisite: SP 175 or consent of instructor. (DD)

THEATRE

TH 111 Introduction to Theatre 3 credits

A study of the interrelated roles contributing to the creation of a play: playwright, actor, director, designers and technicians. Examination of the history of theatre is a major component of the course. Humanities credit. (F, Sp)

TH 113 Beginning Acting 2 credits

Introduction to fundamentals necessary for the actor and an approach to creating a character. Improvisational exercises and short scenes enable students to experience the basics of the craft. (DD)

TH 201 Theatre Participation 1-3 credits

Exploration of one or more aspects of theatre (acting, directing, design, etc.) in a workshop environment. Participants may also satisfy requirements by working on a production. Hours are arranged; requires permission of the instructor. (DD)

WELDING TECHNOLOGY

WT 230 Print Reading for Welders

This course will help students develop the skills needed to interpret all types of working sketches and prints. Other topics covered include pipe welding symbols, metric and dual dimensioning, bills of materials, ISO for welding, and first and third angle orthographic projection.

WT 250 Welding Technology Internship

The internship is designed to give the Welding Technology student practical welding experience following a pre-approved training plan arrived at cooperatively by the employer, student and instructor.