

# Description of Courses

The following pages contain the descriptions of all courses offered by LSCS. The courses are listed in alphabetical order by course rubric (four letter abbreviation).

The first digit of the course number indicates whether the course is usually taken during the first or second year. The second digit refers to the value of each course in credit hours. The third and fourth digits refer to a sequence within the subject field.

In order to offer a wide spectrum of courses to meet individual interests and needs, certain courses in specialized fields may be offered in alternate years or only at specific colleges. The student should take this into consideration when developing a long-range plan. The prerequisites for any course may only be waived by the instructional vice president. The printed schedule of classes will list the specific offering of courses for each college each semester.

## Abbreviations:

hrs. = hours

lec. = lecture

lab. = laboratory

ext. = external learning experience (cooperative, practicum, internship or clinical)

## CREDIT COURSES

### ACCT 2401 - PRINCIPLES OF ACCOUNTING I

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to financial accounting including a study of financial statements of business entities and the measurement and reporting of assets, liabilities, equity, revenues, expenses and cash flows with emphasis on how business and economic information is generated in the accounting process. (5203015104) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### ACCT 2402 - PRINCIPLES OF ACCOUNTING II

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to managerial accounting including a study of costs and cost behavior within business entities, the use of cost

information for planning and control decisions, and product costing for purposes of inventory valuation and income determination. (5203015104) Prerequisite: ACCT 2401

### ACNT 1303 - INTRODUCTION TO ACCOUNTING I

3 Credits (2 hrs. lec., 3 hrs. lab.) A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis is on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll. Includes accounting for notes, deferrals and accruals, receivables and payables, inventory and plant assets. This course is for non-majors only. Accounting majors and transfer students should enroll in ACCT 2401. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### ACNT 1311 - INTRODUCTION TO COMPUTERIZED ACCOUNTING

3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package. Students will use an application software to perform accounting tasks; maintain records and prepare and analyze reports for a business entity; complete a comprehensive project; and explain the components of general ledger software. Prerequisite: ACNT 1303

### ACNT 1331 - FEDERAL INCOME TAX: INDIVIDUAL

3 Credits (3 hrs. lec.) A study of the federal tax law for preparation of individual income tax returns. Emphasis is placed on the determination of income, statutory deductions and federal income tax liability for individuals and sole proprietorships. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### ACNT 1340 - ACCOUNTING AND BUSINESS ETHICS

3 Credits (3 hrs. lec.) Ethical standards and behaviors, codes of professional conduct, and the impact

## DESCRIPTION OF COURSES

of unethical behavior on an individual, business, and society. We will discuss the fundamental ethical issues of business and society, the roles and responsibilities of accounting and auditing professionals, ethical behavior by management, and legal and professional guidelines that address the ethical concerns of society. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ACNT 1347 - FEDERAL INCOME TAX: PARTNERSHIPS/CORPORATIONS**

3 Credits (3 hrs. lec.) A study of federal tax laws for preparation of partnership and corporate returns. Emphasis is placed on the determination of taxable income for partnerships, S corporations and C corporations as well as on tax research and planning. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisites: ACCT 2401, ACNT 1331

### **ACNT 1382 - COOPERATIVE EDUCATION - ACCOUNTING TECHNICIAN**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in Professional Bookkeeper Certificate Program; completion of 15 credits in degree plan; approval of coordinator, ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **ACNT 1391 - SPECIAL TOPICS IN ACCOUNTING**

3 Credits (3 hrs. lec.) A study of the process of evaluating financial statements, cash flows, and ratio analysis of businesses. Includes ratio analysis; interpretation of financial statements; account classifications; income measurements; and capital budgeting decisions. Emphasis on the relationship of comparative analysis and industry standards. Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be

repeated multiple times to improve student proficiency. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

### **ACNT 1393 - SPECIAL TOPICS IN TAXATION**

3 Credits (3 hrs. lec.) Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Includes understanding of topics in taxation that influence decision making in the areas of compliance, investing, tax planning, selection of entity formation, liability issues, and considerations for maximizing the amount of income families and individuals may retain. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 1331

### **ACNT 2303 - INTERMEDIATE ACCOUNTING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2401

### **ACNT 2304 - INTERMEDIATE ACCOUNTING II**

3 Credits (2 hrs. lec., 3 hrs. lab.) Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flows. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

### **ACNT 2309 - COST ACCOUNTING**

3 Credits (3 hrs. lec.) A study of budgeting, cost analysis and cost control systems using traditional and contemporary costing methods and theories in decision making. Topics include a detailed study of manufacturing cost accounts and reports, job order costing, process costing as well as introduction to alternative costing methods such as activity-based and just-in-time costing. Also covered are variance analysis, standard costs, joint and by-product costing. This course meets the qualifying educational credit

required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2402

### **ACNT 2330 - GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING**

3 Credits (3 hrs. lec.) A study of basic fund accounting and financial reporting concepts for governmental and not-for-profit entities. Students will understand the difference between not-for-profit and for-profit entity accounting; and apply accounting and financial reporting principles as they relate to governmental and not-for-profit entities. The student will prepare budgets and financial statements for government and non-profit organizations. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

### **ACNT 2331 - INTERNAL CONTROL AND AUDITING**

3 Credits (3 hrs. lec.) A study of internal controls, auditing standards and processes used by internal auditors, managers, and independent public accountants. Topics include analyzing internal control procedures; responsibilities of auditors, describing auditing standards, procedures and the audit reports; and preparation of audit working papers with related schedules. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

### **ACNT 2332 - ACCOUNTING INFORMATION SYSTEMS**

3 Credits (3 hrs. lec.) A study of the role of accounting information systems and related subsystems, including data collection, retrieval, manipulation, filtering and sorting of data. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2401

### **ACNT 2333 - ADVANCED ACCOUNTING**

3 Credits (3 hrs. lec.) Methods of measuring and communicating financial information with emphasis on consolidated statements and other complex business transactions. Students will prepare consolidated financial statements; apply concepts in the formation, operation, termination, and liquidation of partnerships; and analyze and record complex transactions affecting foreign currency transactions and remeasurements.

This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2304

### **ACNT 2371 - INTERNATIONAL ACCOUNTING**

3 Credits (3 hrs. lec.) Comparative accounting systems and their economic and social development patterns, foreign currency translation, analyzing multinational financial transactions and statements, accounting for international inflation, auditing in an international environment, international reporting and disclosures and international taxation and transfer pricing. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

### **ACNT 2374 - TECHNICAL WRITING FOR ACCOUNTANTS**

3 Credits (3 hrs. lec.) This course is intended to develop the necessary skills for effective accounting and business communications. Effective communications in the 21st Century requires critical thinking skills and the ability to produce professional documents. This class will address the technical skills necessary for professional communications including addressing common issues related to grammar, spelling, punctuation and language usage. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

### **ACNT 2380 - COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: ACNT 2303; enrollment in Accounting AAS degree program; completion of 15 credit hours in degree plan

### **ACNT 2381 - COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience.

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Includes a lecture component. Prerequisites: ACNT 2380; enrollment in Accounting AAS degree; completion of 22 credits in degree plan

### **AFSC 1271 - FOUNDATIONS OF UNITED STATES AIR FORCE I**

2 Credits (2 hrs. lec., 2 hrs. lab.) Introduces the concept of war and the role the Air Force plays. Students will know the career opportunities available, the benefits afforded an Air Force member, and know and develop productive life skills. Basic oral and written communication skills will be demonstrated. The focus is on developing basic knowledge and comprehension of Air Force leadership dimensions while gaining a big picture understanding of the ROTC program, its purpose in the Air Force and its advantages for the student. Prerequisite: None

### **AFSC 1272 - FOUNDATIONS OF UNITED STATES AIR FORCE II**

2 Credits (2 hrs. lec., 2 hrs. lab.) Explores the basic verbal and written communication skills and an operational understanding of the Air Force core values. Students will know the importance of managing diversity and the concepts and consequences of harassment. The basic concepts of Air Force leadership as well as the concept of effective team building will be developed. Case studies will provide a tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operating environment. Prerequisite: None

### **AFSC 2271 - EVOLUTION OF UNITED STATES AIR FORCE AIR AND SPACE POWER I**

2 Credits (2 hrs. lec., 2 hrs. lab.) Introduces the concept of war and the role the Air Force plays. Students will know the career opportunities available, the benefits afforded an Air Force member, and know and develop productive life skills. Basic oral and written communication skills will be demonstrated. The focus is on developing basic knowledge and comprehension of Air Force leadership dimensions while gaining a big picture understanding of the ROTC program, its purpose in the Air Force and its advantages for the student. Prerequisite: None

### **AFSC 2272 - EVOLUTION OF UNITED STATES AIR FORCE AIR AND SPACE POWER II**

2 Credits (1 hr. lec., 2 hrs. lab.) Overviews the key terms and definitions used to describe air and space power. Students will know the milestones and histori-

cal events, leaders, and technological advancements which surround the evolution and employment of USAF air and space power. Basic verbal and written communication skills along with an operational understanding of Air Force core values will be demonstrated. Prerequisite: None

### **AGRI 1131 - THE AGRICULTURE INDUSTRY**

1 Credit (1 hr. lec.) Overview of world agriculture, issues, nature of the industry, and resource conservation. Provides insight regarding departmental and college programs and career opportunities in agriculture, and provides instruction concerning academic skills. (0101035201) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **AGRI 1307 - AGRONOMY**

3 Credits (2 hrs. lec., 2 hrs. lab.) This course covers the fundamentals in sciences of crops, soils, and water. Principles of crop and forage production, management, plant breeding, diseases, insect control, and weed control are also discussed. (0111025101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **AGRI 1309 - COMPUTERS IN AGRICULTURE**

3 Credits (2 hrs. lec., 2 hrs. lab.) This course discusses the use of computers in modern agriculture applications. Programming, languages, word processing, electronic spreadsheets, and agriculture software are also covered along with the evaluation of inputs to and outputs from farm and ranch productions. (0101015101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **AGRI 1319 - GENERAL ANIMAL SCIENCE**

3 Credits (2 hrs. lec., 2 hrs. lab.) Scientific animal agriculture review. Selection, reproduction, nutrition, genetics, animal breeding, growth and development in beef cattle, sheep, horses, swine, dairy cattle, and poultry. (0109015101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

**AGRI 1325 - MARKETING OF AGRICULTURE PRODUCTS**

3 Credits (3 hrs. lec.) This course covers the operations involved in the movement of agricultural commodities from producer to consumer. Also covered are the essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing, and risk bearing. (0101025101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

**AGRI 2317 - INTRODUCTION TO AGRICULTURE ECONOMICS**

3 Credits (3 hrs. lec.) Characteristics of our economic system and basic economic concepts; survey of the farm and agriculture firm and its organization and management; structure and operation of marketing system; functional and institutional aspects of agriculture finance; GAT and NAFTA programs; government farm products and relations are discussed. (0101035101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

**AGRI 2321 - LIVESTOCK EVALUATION**

3 Credits (2 hrs. lec., 2 hrs. lab.) The course covers the evaluation of slaughter and breeding livestock as related to growth and development, production efficiency, and carcass merit. Production records and visual evaluation are also discussed. (0109015201) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

**AGRI 2330 - WILDLIFE CONSERVATION AND MANAGEMENT**

3 Credits (3 hrs. lec.) Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands. (0306015101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AIRP 1307 - AVIATION METEOROLOGY**

3 Credits (3 hrs. lec.) In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds,

air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AIRP 1313 - INTRODUCTION TO AVIATION**

3 Credits (3 hrs. lec.) A study of the historical development of the aviation industry, including key events in civil, military, and space exploration and an overview of legislation relating to aviation. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AIRP 1317 - PRIVATE PILOT GROUND SCHOOL**

3 Credits (3 hrs. lec.) Basic ground school for the Federal Aviation Administration Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for private pilot certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AIRP 1347 - HUMAN FACTORS IN AVIATION**

3 Credits (2 hrs. lec., 2 hrs. lab.) Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft flight deck, and aeromedical information of significance to flight crews. Instruction in human behavior and ergonomics as applied to workplace safety. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ANTH 2301 - PHYSICAL ANTHROPOLOGY**

3 Credits (3 hrs. lec.) This course examines the biological and cultural study of humans as well as the similarities and differences between humans and other primates. The course spans various topics, including mechanisms of genetic change and an overview of human origins and biocultural adaptations. Introduces methods and theory in the excavation and interpretation of material remains of past cultures and reveals how anthropology can be applied to solve health and medical problems in cultures around the world. (4503015125) Prerequisites: ENGL 0305 or ENGL

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0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ANTH 2346 - INTRODUCTION TO ANTHROPOLOGY**

3 Credits (3 hrs. lec.) Anthropology is the study of humans in all places and throughout time. This course focuses on the basic principles and concepts of the subfields of anthropology: archaeology, physical, cultural, and linguistic anthropology. (4502015125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ANTH 2351 - CULTURAL ANTHROPOLOGY**

3 Credits (3 hrs. lec.) This course explores cultural diversity through the study of contemporary and recent groups of humans including their social, religious, economic, and political organization. Included is the study of how practicing cultural relativism increases understanding of other cultures and how cultural anthropology can be applied to solve human problems. (4502015325) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ARAB 1411 - BEGINNING ARABIC I**

4 Credits (3 hrs. lec., 2 hrs. lab.) This course includes beginner's punctuation, oral practice, conversation, development of listening comprehension, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1601015113) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ARAB 1412 - BEGINNING ARABIC II**

4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of ARAB 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. (1601015113) Prerequisites: ARAB 1411; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ARAB 2311 - INTERMEDIATE ARABIC I**

3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary, expansion of grammatical principles and short themes written on a variety of topics. Selected readings are included

to improve comprehension in Arabic. (1601015213) Prerequisites: ARAB 1412; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ARAB 2312 - INTERMEDIATE ARABIC II**

3 Credits (3 hrs. lec.) This course is a continuation of ARAB 2311. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1601015213) Prerequisites: ARAB 2311; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ARCE 1315 - STRUCTURAL STEEL DETAILING**

3 Credits (2 hrs. lec., 4 hrs. lab.) This course covers the preparation of structural steel drawings and bills of material for the purpose of fabrication and erection. Emphasis will be placed upon using structural design framing plans to develop detailed steel members, connections, and assemblies. Prerequisites: ARCE 1352 and MATH 1316; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ARCE 1352 - STRUCTURAL DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute. Prerequisites: DFTG 1305, 1309; CNBT 1311; Corequisite: DFTG 2319

### **ARTC 1302 - DIGITAL IMAGING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions. Prerequisite: competent knowledge of either Macintosh or Windows operating system

### **ARTC 1313 - DIGITAL PUBLISHING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTC 1317 - DESIGN COMMUNICATION I**

3 Credits (2 hrs. lec., 4 hrs. lab.) Study of design development relating to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images and other design elements, and developing computer skills in industry standard computer programs. Prerequisite: None

**ARTC 1353 - COMPUTER ILLUSTRATION**

3 Credits (2 hrs. lec., 3 hrs. lab.) Use of the tools and transformation options of an industry-standard vector drawing program to create complex illustrations or drawings. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTC 2305 - DIGITAL IMAGING II**

3 Credits (2 hrs. lec., 3 hrs. lab.) Principles of digital image processing and electronic painting. Emphasis on bitmapped or raster-based image marking and the creative aspects of electronic illustration for commercial and fine art applications. Prerequisite: ARTC 1302

**ARTC 2313 - DIGITAL PUBLISHING II**

3 Credits (2 hrs. lec., 3 hrs. lab.) Includes layout procedures from thumbnails and roughs to final comprehensive and print output. Emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects. Prerequisite: ARTC 1313

**ARTC 2335 - PORTFOLIO DEVELOPMENT FOR GRAPHIC DESIGN**

3 Credits (2 hrs. lec., 4 hrs. lab.) Preparation of a portfolio comprised of completed graphic design class projects. Evaluation and demonstration of portfolio presentation methods based on the student's specific area of study. Prerequisite: Departmental approval

**ARTC 2347 - DESIGN COMMUNICATIONS II**

3 Credits (2 hrs. lec., 4 hrs. lab.) An advanced study of the design process and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements. Prerequisites: ARTC 1317; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTC 2348 - DIGITAL PUBLISHING III**

3 Credits (2 hrs. lec., 3 hrs. lab.) A project-based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques. Prerequisites: ARTC 2313; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTC 2380 - COOPERATIVE EDUCATION - COMMERCIAL AND ADVERTISING ART**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Departmental approval; meets requirement for final semester as determined by the visual communication department

**ARTS 1301 - ART APPRECIATION**

3 Credits (3 hrs. lec.) An introductory course that studies the visual arts (painting, architecture, sculpture and crafts) through an exploration of their purpose and processes. Occasional field trips are required. This course is for non-majors and art majors or minors who have little or no background in art. (5007035126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 1303 - ART HISTORY SURVEY I**

3 Credits (3 hrs. lec.) A survey of painting, sculpture, architecture and the arts from prehistoric times to the fourteenth century. (5007035226) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 1304 - ART HISTORY SURVEY II**

3 Credits (3 hrs. lec.) A survey of painting, sculpture, architecture and the arts from the fourteenth century to the present. (5007035226) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

## DESCRIPTION OF COURSES

### ARTS 1311 - DESIGN I - 2-D

3 Credits (2 hrs. lec., 4 hrs. lab.) An introductory course with an emphasis on two-dimensional design in art; includes the fundamentals of the elements of art: line, shape, space, texture, value, color, time/motion, and principles of design: balance, emphasis, proportion/scale, rhythm/repetition, and unity/variety/harmony in a composition. (5004015326) Corequisites: Course may be taken with ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375

### ARTS 1312 - DESIGN II - 3-D

3 Credits (2 hrs. lec., 4 hrs. lab.) The construction of three-dimensional forms using a variety of compositional approaches and materials. (5004015326) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 1316 - DRAWING I

3 Credits (2 hrs. lec., 4 hrs. lab.) An introductory course in freehand drawing. Involves the study of space and form through the use of perspective, line and value. (5007055226) Corequisites: Course may be taken with ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375

### ARTS 1317 - DRAWING II

3 Credits (2 hrs. lec., 4 hrs. lab.) Expansion of Drawing I stressing the conceptual, expressive and compositional aspects of drawing in various media. (5007055226) Prerequisites: ARTS 1316; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2311 - DESIGN III - COLOR

3 Credits (2 hrs. lec., 4 hrs. lab.) This course examines various theories in the use of color. Students apply their knowledge in creative compositions using such media as acrylics, colored pencil and collage. (5004015326) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2313 - DESIGN COMMUNICATIONS I

3 Credits (2 hrs. lec., 4 hrs. lab.) This course is an introduction to creative and problem-solving aspects of graphic design using the computer and graphic software. Students will learn basic principles, techniques, compositions, visual perceptions, and strate-

gies for graphic design. The computer and graphic software will be used as an effective tool in graphic communications. (5004015126) Prerequisites: ARTS 1311; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2314 - DESIGN COMMUNICATIONS II

3 Credits (2 hrs. lec., 4 hrs. lab.) This course is an in-depth study and exploration of graphic design as a creative and problem-solving tool of visual communication. A translation of ideas and concepts into comprehensible visual language is emphasized. Typography, semantics, and computer and technical processes used in design will be stressed. This course is an introduction to the techniques and processes of the print media. The students will also be introduced to historical and aesthetic issues. (5004015126) Prerequisites: ARTS 2313; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2316 - PAINTING I

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to various painting theories and techniques using oil and/or acrylics. (5007085226) Prerequisites: ARTS 1311 and 1316, or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2317 - PAINTING II

3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of Painting I, with an emphasis on individual expression. (5007085226) Prerequisites: ARTS 2316; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2323 - DRAWING III: FIGURE DRAWING

3 Credits (2 hrs. lec., 4 hrs. lab.) An advanced level course in which students draw the human figure from direct observation of a live model, using a variety of materials and techniques. (5007055326) Prerequisites: ARTS 1317 and instructor approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing



**ARTS 2326 - SCULPTURE I**

3 Credits (2 hrs. lec., 4 hrs. lab.) An exploration of various sculptural approaches in a variety of media including additive and subtractive methods. (5007095126) Prerequisites: ARTS 1312 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2327 - SCULPTURE II**

3 Credits (2 hrs. lec., 4 hrs. lab.) An expansion of Sculpture I, with an emphasis on individual expression. Students will investigate the sculpture of different cultural groups creating works which reflect this research. (5007095126) Prerequisites: ARTS 2326; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2333 - PRINTMAKING I**

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to the techniques and procedures of printmaking. Exploration of creative design and color through traditional and contemporary printmaking techniques, including woodcut and silk - screen. (5007105126) Prerequisites: ARTS 1316 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2334 - PRINTMAKING II**

3 Credits (2 hrs. lec., 4 hrs. lab.) Special procedures and problems involving further investigation of various printmaking media, including etching. (5007105126) Prerequisites: ARTS 2333 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2341 - ART METALS I**

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to metal fabrication through the study of basic materials and techniques. Includes soldering, riveting, raising, sawing and filing. Students will also learn the proper maintenance and operating procedures of machines and hand tools. (5007135126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2342 - ART METALS II**

3 Credits (2 hrs. lec., 4 hrs. lab.) Further investigation of metal smithing through advance techniques such as casting and stone setting. (5007135126) Prerequisites: ARTS 2341 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2346 - CERAMICS I**

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to ceramics processes through the study of basic materials and techniques. Includes hand building, the use of the potter's wheel, glazing and firing techniques. (5007115126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2347 - CERAMICS II**

3 Credits (2 hrs. lec., 4 hrs. lab.) Investigates advanced techniques, as well as the creative possibilities of clay, glazes and firing procedures. (5007115126) Prerequisites: ARTS 2346 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**ARTS 2348 - DIGITAL ART I**

3 Credits (2 hrs. lec., 4 hrs. lab.) This course is an introduction to digital imaging on the computer as it relates to art and design, employing a fundamental exploration of the potential of computer hardware and software medium for their visual, conceptual and practical uses in the visual arts. Basic theories of design and composition are stressed using digital image editing software to manipulate scanned images. (5004025226) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ARTS 2349 - DIGITAL ART II**

3 Credits (2 hrs. lec., 4 hrs. lab.) This course explores the use of computer hardware and software as a medium for visual and conceptual expression in the visual arts. Students will apply skills acquired in Digital Art I to focus on the development and production of creative art pieces. (5004025226) Prerequisites: ARTS 2348; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

## DESCRIPTION OF COURSES

### ARTS 2356 - PHOTOGRAPHY I

3 Credits (2 hrs. lec., 4 hrs. lab.) A beginning course that introduces students to theoretical and applied aspects of photography, including cameras, lenses, photographic materials and techniques, black-and-white darkroom procedures and photographic composition. May include digital photography practices. (5006055126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2357 - PHOTOGRAPHY II

3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of Photography I, this course provides further study of photographic theories, techniques and processes. The analysis and utilization of the design and compositional elements in photography are also stressed. May include digital photography practices. (5006055226) Prerequisites: ARTS 2356; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2366 - WATERCOLOR

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to aquamedia using a variety of subject matter, concepts, techniques and materials. (5007085326) Prerequisites: ARTS 1311 and 1316; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTS 2389 - ACADEMIC CO-OP IN ART

3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in art. In conjunction with class seminars, the individual student will set specific goals and objectives in art. (2401035212) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ARTV 1303 - BASIC ANIMATION

3 Credits (2 hrs. lec., 4 hrs. lab.) Examination of animation concepts, principles, and storyboard for basic production. Emphasizes creating movement and expression utilizing traditionally or digitally generated image sequences. Prerequisite: None

### ARTV 1341 - 3-D ANIMATION I

3 Credits (2 hrs. lec., 4 hrs. lab.) Intermediate level 3-D course introducing animation tools and techniques used to create movement. Prerequisites: ARTV 1345, ARTV 1303 and ARTC 1302

### ARTV 1343 - DIGITAL SOUND

3 Credits (2 hrs. lec., 4 hrs. lab.) Digitizing sound and incorporating it into video games, multimedia or web projects for various delivery systems. Emphasizes compression issues, sampling, synchronizing, and resource management. Prerequisite: None

### ARTV 1345 - 3-D MODELING AND RENDERING I

3 Credits (2 hrs. lec., 4 hrs. lab.) Techniques of three-dimensional (3-D) modeling utilizing industry standard software. Includes the creation and modification of 3-D geometric shapes, use of a variety of rendering techniques, camera, light sources, texture, and surface mapping. Prerequisite: None

### ARTV 1351 - DIGITAL VIDEO

3 Credits (2 hrs. lec., 4 hrs. lab.) Producing and editing video and sound for multimedia or web productions. Emphasizes capture, editing, and outputting of video using a digital video workstation. Prerequisite: None

### ARTV 2341 - ADVANCED DIGITAL VIDEO

3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced digital video techniques for post-production. Emphasizes integration of special effects and animation for film, video, and the Internet. Exploration of new and emerging compression and video streaming technologies. Prerequisites: ARTV 1351; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

### ARTV 2345 - 3-D MODELING AND RENDERING II

3 Credits (2 hrs. lec., 4 hrs. lab.) A studio course focused on advanced 3-D modeling and rendering techniques using industry standard software, modeling techniques, camera settings, lighting, and surfacing to develop detailed environments. Prerequisite: ARTV 1345

### ARTV 2351 - 3-D ANIMATION II

3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced level 3-D course utilizing animation tools and techniques used to develop movement. Emphasis on advanced

animation techniques. This is a studio course focused on advanced 3-D modeling and rendering techniques using industry standard software, modeling techniques, camera settings, lighting, and surfacing to develop detailed environments. Prerequisite: ARTV 1341

### **AUMT 1405 - INTRODUCTION TO AUTOMOTIVE TECHNOLOGY**

4 Credits (3 hrs. lec., 4 hrs. lab.) An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and basic automotive maintenance. May be taught manufacturer specific. Prerequisite: None

### **AUMT 1407 - AUTOMOTIVE ELECTRICAL SYSTEMS**

4 Credits (3 hrs. lec., 4 hrs. lab.) An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of charging and starting systems, and electrical accessories. Emphasis on electrical principles schematic diagrams, and service manuals. May be taught manufacturer specific. Prerequisite: None

### **AUMT 1410 - AUTOMOTIVE BRAKE SYSTEMS**

4 Credits (3 hrs. lec., 4 hrs. lab.) Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions. Prerequisite: None

### **AUMT 1416 - SUSPENSION AND STEERING**

4 Credits (3 hrs. lec., 4 hrs. lab.) Diagnosis and repair of automotive suspension and steering systems including electronically controlled systems. Includes component repair, alignment procedures and tire and wheel service. May be taught manufacturer specific. Prerequisite: None

### **AUMT 1419 - AUTOMOTIVE ENGINE REPAIR**

4 Credits (3 hrs. lec., 4 hrs. lab.) Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, disassembly, repair, and reassembly of the engine. May be taught manufacturer specific. Prerequisite: AUMT 1405

### **AUMT 1445 - AUTOMOTIVE CLIMATE CONTROL SYSTEMS**

4 Credits (3 hrs. lec., 4 hrs. lab.) Diagnosis and repair of manual/electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer specific. Prerequisite: AUMT 1407

### **AUMT 2328 - AUTOMOTIVE SERVICE**

3 Credits (2 hrs. lec., 4 hrs. lab.) Mastery of automotive service including competencies covered in related courses. May be taught manufacturer specific. Prerequisite: Completion of 15 credit hours in automotive courses OR departmental approval.

### **AUMT 2380 - COOPERATIVE EDUCATION: AUTO/AUTOMOTIVE**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Completion of 15 hours in automotive courses AND departmental approval.

### **AUMT 2381 - COOPERATIVE EDUCATION: AUTO/AUTOMOTIVE**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in Automotive Technology AAS degree; completion of 25 hours in automotive courses AND departmental approval.

### **AUMT 2413 - AUTOMOTIVE DRIVE TRAIN AND AXLES**

4 Credits (3 hrs. lec., 4 hrs. lab.) A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions. Prerequisite: None

## DESCRIPTION OF COURSES

### **AUMT 2417 - AUTOMOTIVE ENGINE PERFORMANCE ANALYSIS I**

4 Credits (3 hrs. lec., 4 hrs. lab.) Theory, operation, diagnosis of drivability concerns, and repair ignition and fuel delivery systems. Use of current engine performance diagnostic equipment. May be taught with manufacturer specific instructions. Prerequisite: AUMT 1407

### **AUMT 2425 - AUTOMATIC TRANSMISSION AND TRANSAXLE**

4 Credits (3 hrs. lec., 4 hrs. lab.) A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions/transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and repair techniques. May be taught manufacturer specific. Prerequisite: None

### **AUMT 2434 - AUTOMOTIVE ENGINE PERFORMANCE ANALYSIS II**

4 Credits (3 hrs. lec., 4 hrs. lab.) Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems. Includes use of advanced engine performance diagnostic equipment. May be taught manufacturer specific. Prerequisite: AUMT 2417

### **AUMT 2437 - AUTOMOTIVE ELECTRONICS**

4 Credits (3 hrs. lec., 4 hrs. lab.) Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. May be taught manufacturer specific. Prerequisite: AUMT 1407

### **AVIM 1380 - COOPERATIVE EDUCATION: AVIATION MANAGEMENT AND OPERATIONS**

3 Credits (1 hr. lec., 20 hrs. ext.) Career related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer and student. Under the supervision of the college and the employer the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: Departmental approval; Completion of 15 hours in the aviation management AAS program

### **AVIM 2331 - AIRLINE MANAGEMENT**

3 Credits (3 hrs. lec.) An examination of the organization, operation, and management of airlines. Topics include financing, aircraft selection, route feasibility studies, load factors, and marketing. Prerequisites: ACCT 2401 ; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **AVIM 2335 - AIRPORT MANAGEMENT**

3 Credits (3 hrs. lec.) A study of the major functions of airport management including facilities and services, organization, human resources, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, safety and marketing. Prerequisites: AIRP 1313; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **AVIM 2337 - AVIATION LAW**

3 Credits (3 hrs. lec.) A study of the major functions of airport management including facilities and services, organization, human resources, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety. Prerequisites: AIRP 1313; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **AVIM 2371 - AVIATION COMMUNICATION**

3 Credits (3 hrs. lec.) Basic theory and processes of communication skills necessary for management in an aviation environment. Explores the nature of communication including interpersonal communication. Emphasis on skills in building trust, listening, appropriate response styles, and giving feedback. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **AVTS 1371 - INTRODUCTION TO LIVE ENTERTAINMENT TECHNOLOGY**

3 Credits (3 hrs. lec., 1 hr. lab.) An introduction to the live entertainment technology industry, including working methods, processes, equipment, and facilities for theatre, opera, dance, concert productions, theme parks, themed-retail, cruise ship venues, house of worship and corporate special events. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AVTS 1372 - LIVE ENTERTAINMENT TECHNOLOGY COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Intermediate career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Instructor approval required; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AVTS 1373 - ADVANCED ENTERTAINMENT TECHNOLOGY**

3 Credits (1 hr. lec., 4 hrs. lab.) The course will introduce advanced topics in the Entertainment Technology industry. This will include industry standards, techniques, and resources that are available to entertainment technicians. Topics include digital audio mixing, advanced light programming including effects programming and the use of lighting consoles, math for entertainment systems, and use of video and projection in entertainment. Prerequisite: AVTS 1371

**AVTS 2371 - LIVE ENTERTAINMENT TECHNOLOGY TROUBLESHOOTING**

3 Credits (1 hr. lec., 4 hrs. lab.) Active integration of knowledge of audio/video/lighting systems into a working environment which focuses on specific challenges encountered in the audio/video/lighting industry. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**AVTS 2372 - LIVE ENTERTAINMENT TECHNOLOGY LIGHTING AND SOUND PROJECT**

3 Credits (1 hr. lec., 4 hrs. lab.) Demonstration of the technologies and the skills required for installing and uninstalling equipment on a project basis in audio/video/lighting systems. Topics include installation, troubleshooting, documentation, written and oral communication skills, interpersonal skills, customer service skills, teamwork, time management, labor management, and safety codes. The course culminates with examples of project management in various environments. Prerequisites: AVTS 1371 and AVTS 2371

**AVTS 2373 - ADVANCED LIVE ENTERTAINMENT TECHNOLOGY COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Advanced career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: AVTS 1372

**AVTS 2374 - AUDIO FOR LIVE ENTERTAINMENT TECHNOLOGY**

3 Credits (2 hrs. lec., 2 hrs. lab.) Basic principles of live sound reinforcement. Emphasis on signal flow, acoustic, sound reinforcement set-ups and installation, signal processing, microphone selections and placement. Includes setting up sound systems and mixing live music. Topics include microphones, control consoles, reproduction techniques, amplification, distribution, loudspeaker systems, frequency response, decibels, and dynamic range. Prerequisite: AVTS 1371

**AVTS 2375 - LIGHTING FOR LIVE ENTERTAINMENT TECHNOLOGY**

3 Credits (2 hrs. lec., 2 hrs. lab.) Lighting for LET teaches the basic principles of lighting systems. Students will program and design with moving and conventional lighting fixtures for a variety of events such as concerts, corporate parties, trade shows, and houses of worship. Prerequisite: AVTS 1371

**BCIS 1405 - BUSINESS COMPUTER APPLICATIONS**

4 Credits (3 hrs. lec., 2 hrs. lab.) Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet. (1102025404) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**BIOL 1322 - NUTRITION**

3 Credits (3 hrs. lec.) Fundamental principles of normal nutrition and the importance of nutrition in promoting growth and health. Emphasis will be given to the basic food constituents and their physiological relationships within the body. Consideration will also be given to

## DESCRIPTION OF COURSES

family and community needs. This course will not fulfill a laboratory science requirement. (1905015109) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### BIOL 1406 - BIOLOGY I

4 Credits (3 hrs. lec., 3 hrs. lab.) A contemporary course including applications of the scientific method, cellular and molecular biology, biochemistry, classical and human genetics, virology and mechanisms of evolution. (2601015103) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### BIOL 1407 - BIOLOGY II

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a continuation of Biology I. It includes a detailed phylogenetic survey of the major kingdoms. This includes a comparison of the systems of different organisms. Ecological roles and relationships, as well as behavior of organisms, will be integrated throughout. (2601015103) Prerequisites: BIOL 1406, ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### BIOL 1408 - INTRODUCTION TO BIOLOGY I FOR NON-MAJORS

4 Credits (3 hrs. lec., 3 hrs. lab.) A conceptual approach for students not majoring in science. An introduction to the nature of science, the characteristics of life, the molecular and cellular basis of life, viruses, energetics, genetics, reproduction and development. An emphasis will be placed on how these topics are related to issues facing modern society. (2601015103) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### BIOL 1409 - INTRODUCTION TO BIOLOGY II FOR NON-MAJORS

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of Introduction to Biology I designed for non-science majors. This conceptual approach to biology includes the diversity of life: prokaryotes, protists, fungi, plants, and animals. Topics will include structures and their functions, evolution, environmental and human interactions. (2601015103) Prerequisites: BIOL 1406 OR BIOL 1408; ENGL 0305 or ENGL 0365 AND ENGL

0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BIOL 2305 - PATHOPHYSIOLOGY

3 Credits (3 hrs. lec.) Pathophysiology is a three-credit lecture course appropriate for students preparing for a nursing career, specifically those transitioning from RN to BSN. The student must contact the transferring institution to determine how the course will transfer and be applied to their degree. This is a specialized study of the structure and function of human anatomy, including neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems as they relate to the study of human disease. Objectives include a study of general physiological factors involved in the disease process as well as pathology affecting different human systems. (2607075103) Prerequisites: BIOL 2401 AND BIOL 2402; MATH 0308, ENGL 1301, AND departmental approval

### BIOL 2389 - ACADEMIC COOPERATIVE IN THE BIOLOGICAL SCIENCE/LIFE SCIENCE

3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives. The external learning experiences must have faculty approval. Liability insurance through LSCS's insurer (fee approximately \$18) and one semester's advance notice to faculty are required. (2601015203) Prerequisites: Eight credit hours in biological sciences (selected from BIOL 1406, 1407, 2401, 2402, 2406, 2416, 2420, and 2421), faculty approval, and a grade point average of at least a "B"; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BIOL 2401 - HUMAN ANATOMY & PHYSIOLOGY I

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the structure and function of the human body. Emphasis will be given to the study of cells and tissues and anatomical and physiological interrelationships of the skeletal, muscular, nervous and endocrine systems. Designed primarily for students entering health careers. (2607075103) Prerequisites: BIOL 1406 strongly recommended; MATH 0308; ENGL 0305 or ENGL

0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **BIOL 2402 - HUMAN ANATOMY & PHYSIOLOGY II**

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of BIOL 2401. Emphasis will be given to the study of the anatomical and physiological interrelationships of the circulatory, respiratory, digestive, reproductive and excretory systems. Designed primarily for students entering health careers. (2607075103) Prerequisites: BIOL 2401; MATH 0308; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **BIOL 2404 - INTRODUCTION TO ANATOMY AND PHYSIOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) A general survey of the structure and function of human anatomy and physiology, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, lymphatic, and circulatory systems. (2607075103) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **BIOL 2406 - ENVIRONMENTAL BIOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) A one-semester survey of the interrelationships between the biotic and abiotic parts of the environment and how man affects them. Topics include: basic ecological principles; energy; human influences on ecosystems; and pollution and policy making. Laboratory experiences will reinforce these topics. Field trips required. (0301035101) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **BIOL 2416 - GENETICS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the principles of genetics with an emphasis on molecular aspects. Course content will also include genetic engineering principles, population genetics, and the function and transmission of hereditary material. (2608045103) Prerequisites: BIOL 1406 AND BIOL 2420 OR BIOL 2421; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **BIOL 2420 - MEDICAL MICROBIOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is designed for health science majors. This course is a study of microorganisms including a description of basic cell structure, biochemistry, metabolism, nutrition, reproduction and genetics. Mechanisms of transmission, microbial entry, pathogenesis, prophylaxis, epidemiology and microbial control of selected human pathogens will be explored. Basic body defense mechanisms and immunological responses to pathological conditions will be examined. Laboratory exercises will include aseptic techniques, microscopy, culture techniques, determination of bacterial morphology, staining, and biochemical differentiation. (2605015103) Prerequisites: BIOL 1406 or 2401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **BIOL 2421 - GENERAL MICROBIOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is designed for science majors. A study of the morphology, biochemistry, physiology, genetic and taxonomy of microorganisms with an emphasis on bacteria. The biological principles and relationships of microorganisms to man in agriculture, sanitation, industry, medicine, and the environment will also be emphasized. Laboratory exercises will include aseptic techniques, microscopy, culture techniques, determination of bacterial morphology, staining, and biochemical differentiation. (2605035103) Prerequisites: BIOL 1406, CHEM 1405; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **BITC 1191 - SPECIAL TOPICS IN BIOLOGICAL TECHNOLOGY**

1 Credit (1 hr. lec.) Topics address recently identified current events, skills, knowledge, and / or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Prerequisites: BITC 1411 and BITC 1402

### **BITC 1402 - BIOTECHNOLOGY LABORATORY METHODS AND TECHNIQUES**

4 Credits (3 hrs. lec., 3 hrs. lab.) Laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Includes laboratory practice in sampling and storage of bio-

## DESCRIPTION OF COURSES

molecules using pH meters, mixing buffers, performing measurements, preparing solutions, and performing separatory techniques. Prerequisites: BITC 1411; CHEM 1405, 1411, 1412, 1419, 2423, or 2425; MATH 1314 or higher level MATH course that has MATH 1314 as a prerequisite; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BITC 1411 - INTRODUCTION TO BIOTECHNOLOGY I

4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0310 or placement by testing

### BITC 2411 - BIOTECHNOLOGY LABORATORY INSTRUMENTATION

4 Credits (3 hrs. lec., 3 hrs. lab.) Theory, applications, and operation of various biotechnology-related analytical instruments. Addresses separation and identification techniques including electrophoresis, spectrophotometry, and chromatography. Prerequisites: BITC 1402; BIOL 1406; BIOL 2420 or BIOL 2421; CHEM 1405 or 1411; OR instructor's approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BITC 2431 - CELL CULTURE TECHNIQUES

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of cell culture techniques. Laboratory emphasis on the principles and practices of initiation, cultivation, maintenance and preservation of cell lines with applications. Prerequisites: BITC 2411 OR instructor's approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BITC 2441 - MOLECULAR BIOLOGY TECHNIQUES

4 Credits (3 hrs. lec., 3 hrs. lab.) In depth coverage of the theory and laboratory techniques in molecular biology with an emphasis on gene expression and regulation, recombinant DNA, and nucleic acids. Prerequisites: BITC 2411; BIOL 2416; BIOL 2420 or 2421; OR instructor's approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BITC 2486 - INTERNSHIP - BIOLOGICAL TECHNOLOGY/TECHNICIAN

4 Credits (20 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: Completion of all BITC courses with a grade of "C" or better; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BMGT 1301 - SUPERVISION

3 Credits (3 hrs. lec.) The role of the supervisor. Includes managerial functions as applied to leadership, counseling, motivation, and human relations skills. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BMGT 1306 - FACILITIES MANAGEMENT

3 Credits (3 hrs. lec.) General management and supervision of public buildings, business and industrial facilities, and other complexes requiring supervision and control. Includes fire alarm maintenance, plant maintenance, occupational safety, OSHA rules and regulations, management of maintenance supervisors, and hazardous materials awareness. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### BMGT 1309 - INFORMATION AND PROJECT MANAGEMENT

3 Credits (3 hrs. lec.) Critical path methods for planning and controlling projects. Includes time/cost tradeoffs, resource utilization, stochastic considerations, task determination, time management, scheduling management, status reports, budget management, customer service, professional attitude, and project supervision. Basic computer skills are needed to successfully complete this course. Prerequisite: None

### BMGT 1327 - PRINCIPLES OF MANAGEMENT

3 Credits (3 hrs. lec.) Concepts, terminology, principles, theory, and issues that are the substance of the practice of management. Prerequisite: None



**BMGT 1331 - PRODUCTION AND OPERATIONS MANAGEMENT**

3 Credits (3 hrs. lec.) Fundamentals of the various techniques used in the practice of production and operations management. Includes location, design, and resource allocation. Prerequisite: None

**BMGT 1341 - BUSINESS ETHICS**

3 Credits (3 hrs. lec.) Discussion of ethical issues, the development of a moral frame of reference, and the need for an awareness of social responsibility in management practices and business activities. Includes ethical corporate responsibility. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**BMGT 2303 - PROBLEM SOLVING AND DECISION MAKING**

3 Credits (3 hrs. lec.) Decision-making and problem-solving processes in organizations utilizing logical and creative problem solving techniques. Application of theory is provided by experiential activities using managerial decision tools. Prerequisite: None

**BMGT 2382 - CO-OP: BUSINESS ADMINISTRATION AND MANAGEMENT I**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in management AAS degree program; completion of 15 credits in degree plan AND departmental approval

**BMGT 2388 - INTERNSHIP - BUSINESS AND MANAGEMENT**

3 Credits (9 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Departmental approval

**BUSG 1341 - SMALL BUSINESS FINANCING**

3 Credits (3 hrs. lec.) Financial structure of a small business. Includes business financing, budgeting, record keeping, taxation, insurance, and banking.

Students will prepare the financial part of a comprehensive business plan in this course. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**BUSG 2309 - SMALL BUSINESS MANAGEMENT/ ENTREPRENEURSHIP**

3 Credits (3 hrs. lec.) Starting, operating, and growing a small business. Includes essential management skills, how to prepare a business plan, accounting, financial needs, staffing, marketing strategies, and legal issues. Prerequisite: Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**BUSG 2371 - ENTREPRENEURIAL MARKETING**

3 Credits (3 hrs. lec.) Principles of marketing for an entrepreneurial venture, utilizing innovative and financially responsible marketing strategies. Preparation of a marketing plan designed to launch the entrepreneurial venture as well as marketing strategies to implement during the first two years of business operation. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**BUSI 1301 - BUSINESS PRINCIPLES**

3 Credits (3 hrs. lec.) Introduction to the role of business in modern society. Includes basic history of business, basic economic systems, types of ownership, management, marketing, finance, manufacturing, law and other topics of business operations. Subject matter includes an analysis of the specialized fields within the business organization, career planning as related to the fields, starting your own business, current trends in profit and nonprofit business activities and development of a business vocabulary. (5201015104) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**BUSI 1307 - PERSONAL FINANCE**

3 Credits (3 hrs. lec.) A study of the financial problems that people ordinarily encounter in personal money management. Includes financial planning, budgeting, insurance, buying, taxes, use of credit, consumer protection, investing, savings, home ownership, estate planning and basic statistics as applied to consumer

## DESCRIPTION OF COURSES

problems. (1904015109) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **BUSI 2301 - BUSINESS LAW**

3 Credits (3 hrs. lec.) Principles of law which form the legal framework for business activity. Includes applicable statutes, torts, contracts, personal and real property, wills and trusts and consumer law. (2201015124) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **BUSI 2304 - BUSINESS COMMUNICATIONS**

3 Credits (3 hrs. lec.) Theory and applications for technical reports and correspondence in business. Principles of effective oral and written business communication. Activities include writing business messages for a variety of business situations, writing both formal and informal business reports, and presenting business data orally. (2313035212) Prerequisite: ENGL 1301

### **BUSI 2372 - BUSINESS ANALYSIS**

3 Credits (3 hrs. lec.) This course is designed to introduce to students the use of quantitative business techniques. Topics include organizing and presenting data, descriptive statistics, probability, discrete and continuous distributions, systems of equations, modeling, optimization procedures, and statistical inference. (5203047204) Prerequisites: MATH 1314; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **BUSI 2373 - DESIGN AND PRESENTATION OF BUSINESS PROJECTS**

3 Credits (3 hrs. lec.) This course focuses on the design and presentation of business information using current technology to enhance communication. Theory and principles are studied as they apply to the development of competency in formal business speaking. (5201017104) Prerequisite: ENGL 1301

### **CETT 1402 - ELECTRICITY PRINCIPLES**

4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operation. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **CETT 1403 - DC CIRCUITS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the fundamentals of direct current including Ohm's law, Kirchoff's laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements. Corequisite: MATH 1314

### **CETT 1405 - AC CIRCUITS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance. Prerequisites: CETT 1403, ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **CETT 1409 - DC-AC CIRCUITS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of DC circuits and AC circuits operation including Ohm's law, Kirchoff's laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques. Not intended for Engineering Technology A.A.S. majors. Prerequisite: None

### **CETT 1425 - DIGITAL FUNDAMENTALS**

4 Credits (3 hrs. lec., 3 hrs. lab.) An entry level course in digital electronics to include numbering systems, logic gates, Boolean algebra, and combinational logic. Prerequisites: CETT 1403; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisite: CETT 1405

### **CETT 1429 - SOLID STATE DEVICES**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of diodes and other semiconductor devices, including analysis of static and dynamic characteristics, biasing techniques, and thermal considerations. Prerequisites: CETT 1405; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **CETT 1445 - MICROPROCESSOR**

4 Credits (3 hrs. lec., 3 hrs. lab.) An introductory course in microprocessor software and hardware; its architecture, timing sequence, operation, and programming; and discussion of appropriate software diagnostic language and tools. Prerequisites: CETT 1425; ENGL 0304 or ENGL 0364 AND ENGL 0306

or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **CETT 1457 - LINEAR INTEGRATED CIRCUITS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of characteristics, operations, stabilization, and testing of linear integrated circuits. Applications include instrumentation and active filtering. Prerequisites: CETT 1429; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **CETT 1491 - SPECIAL TOPICS IN COMPUTER ENGINEERING TECHNOLOGY/TECHNICIAN**

4 Credits (3 hrs. lec., 2 hrs. lab.) Topics/projects address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Working with the instructor, the advanced network/telecommunications student selects, develops an advanced design project or performs an advanced activity in a specific area of employment in the field of networking or telecommunications. This is a capstone experience. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **CETT 2449 - RESEARCH AND PROJECT DESIGN**

4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. Working with the instructor, the advanced student selects, develops an advanced design project or performs an advanced activity in a specific area of employment. This is a capstone experience. Prerequisites: Near program completion or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **CHEF 1305 - SANITATION AND SAFETY**

3 Credits (3 hrs. lec.) A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **CHEM 1405 - INTRODUCTORY CHEMISTRY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a preparatory course for students who have never had chemistry and covers the metric system, atoms and elements, bonding, solids, liquids, gases, stoichiometry, solutions, reactivity, and acids and bases. The lab includes experiments in inorganic chemistry. This course is appropriate for some nursing students, as well as students who will pursue higher level chemistry. (4005015103) Prerequisites: MATH 0308 OR placement by testing; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **CHEM 1411 - GENERAL CHEMISTRY I**

4 Credits (3 hrs. lec., 3 hrs. lab.) Topics include a mathematical introduction (metric system, significant figures and scientific notation), discussion of atoms, molecules and ions, stoichiometry, electronic structure, periodic relationships, bonding, molecular geometries and properties of gases, liquids, solids and solutions. Appropriate lab experiments are included. (4005015403) Prerequisites: CHEM 1405 or 1 year of high school chemistry taken within the last 3 years AND MATH 0310 OR placement by testing; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing. Corequisites: MATH 1314

### **CHEM 1412 - GENERAL CHEMISTRY II**

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of CHEM 1411, reviewing solutions and including studies in kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry and an introduction to various other areas of chemistry. Appropriate laboratory experiments are included. (4005015703) Prerequisites: CHEM 1411 AND MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **CHEM 1419 - INTRODUCTORY ORGANIC AND BIOCHEMISTRY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course covers a survey of atomic and molecular structure, organic nomenclature and functional group reactions, carbohydrates, lipids, proteins, nucleic acids, metabolism, and enzymes. The laboratory exercises include experiments in organic and biochemical analysis. This course is appropriate for some nursing students.

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(4005045103) Prerequisites: CHEM 1405 or 1411; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CHEM 2389 - ACADEMIC COOPERATIVE

3 Credits (1 hr. lec., 6 hrs. ext.) Integrates campus classroom/laboratory instruction with an off-campus experience wherein the student works under the guidance of a sponsor whose academic/professional degree and career track match the student's aspirations. The sponsor and faculty will determine specific qualifications for student placement in this course. Student, faculty, and sponsor will set specific goals before initiating the cooperative experience and will consult at regular intervals over the semester to plan and mark progress as these goals are achieved. (400105303) Prerequisites: minimum GPA 3.0; faculty approval; 20 hours in MATH/Science courses as required of physical/biological science majors, including CHEM 1411 and 1412. Liability insurance through LSCS's insurer (fee approximately \$18) and one semester's advance notice to faculty are required in order to make arrangements for a suitable co-op experience.

### CHEM 2423 - ORGANIC CHEMISTRY I

4 Credits (3 hrs. lec., 4 hrs. lab.) This science major's course covers the topics of alkanes, alkenes, alkynes, stereochemistry, alkyl halides, nucleophilic substitution, elimination, spectroscopy, conjugation, aromaticity, aromatic substitution and organic synthesis. The laboratory program includes appropriate experiments with product purification and methods of analysis including chromatography and infrared spectroscopy. (4005045203) Prerequisites: CHEM 1412; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CHEM 2425 - ORGANIC CHEMISTRY II

4 Credits (3 hrs. lec., 4 hrs. lab.) This continuation of CHEM 2423 includes topics on alcohols, aldehydes, ketones, carboxylic acids and derivatives, condensation reactions, amines, biochemistry and polymer chemistry. The laboratory program continues investigations into synthetic techniques with product purification and analysis including chromatography and infrared spectroscopy. (4005045203) Prerequisites: CHEM 2423; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CHIN 1411 - BEGINNING CHINESE I

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to modern spoken and written Mandarin Chinese. Beginners' speaking, listening comprehension and basic principles in grammar along with simple exercises in compositions and reading which include cultural material. Students will write Chinese characters. (1603015113) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CHIN 1412 - BEGINNING CHINESE II

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of CHIN 1411 as an introduction to modern spoken and written Mandarin Chinese. Increased emphasis on speaking, listening comprehension, and basic principles in grammar along with simple exercises in compositions and reading which include cultural material. Students will write Chinese characters. (1603015113) Prerequisites: CHIN 1411; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CHIN 2311 - INTERMEDIATE CHINESE I

3 Credits (3 hrs. lec.) A review and application of skills in listening comprehension, speaking, reading and writing Mandarin Chinese. This course will emphasize conversation, vocabulary acquisition, reading composition, and culture. Students will write Chinese characters. (1603015213) Prerequisites: CHIN 1412; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CHIN 2312 - INTERMEDIATE CHINESE II

3 Credits (3 hrs. lec.) A continuation of CHIN 2311 (1603015213) Prerequisites: CHIN 2311; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CMSW 1309 - PROBLEMS OF CHILDREN AND ADOLESCENTS

3 Credits (3 hrs. lec.) Examine common problems and evaluate effective intervention models of at-risk children and youth. Topics include: social, family, educational systems impact, juvenile delinquency, teen sexuality, and addictive behaviors. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CMSW 1323 - THE EXCEPTIONAL PERSON**

3 Credits (3 hrs. lec.) Study of physical, intellectual, and learning disabilities, sensory deficits, as well as the exceptionally gifted individual. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CMSW 1341 - BEHAVIOR MODIFICATION WITH COGNITIVE DISORDER**

3 Credits (3 hrs. lec.) In-depth study of the theories and principles of behavioral science and the methods of modifying and controlling behavior in clients with cognitive disorders. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**CMSW 1353 - FAMILY INTERVENTION STRATEGIES**

3 Credits (3 hrs. lec.) Study of current family intervention strategies. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**CMSW 1391 - SPECIAL TOPICS IN CLINICAL AND MEDICAL SOCIAL WORK**

3 Credits (3 hrs. lec.) Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CNBT 1311 - CONSTRUCTION MATERIALS AND METHODS I**

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to construction materials and methods and their applications. Prerequisite: None

**CNBT 1342 - BUILDING CODES AND INSPECTIONS**

3 Credits (3 hrs. lec.) An examination of the building codes and standards applicable to building construction and inspection processes. Prerequisites: CNBT 1311, DFTG 1305, and ENGL 1301

**COMM 1129 - PUBLICATIONS PRODUCTION**

1 Credit (4 hrs. lab.) Special course in content, layout and design. Work on campus publication using a computer for writing, editing and mechanical production, at prescribed periods under supervision. May be repeated for a maximum of four credit hours. (0904015406) Corequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COMM 1307 - INTRODUCTION TO MASS COMMUNICATIONS**

3 Credits (3 hrs. lec.) A survey of the various media employed in communicating to the masses; examination of the practices, possibilities and limitations of each. A study of the relationship between media communications and social actions or attitudes. (0901025106) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COMM 1316 - PHOTO JOURNALISM**

3 Credits (2 hrs. lec., 3 hrs. lab.) A course which deals primarily with the principles and methods of producing news, feature and public relations photographs for newspapers and magazines. (0904015506) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COMM 2302 - PRINCIPLES OF JOURNALISM**

3 credits (3 hrs. lec.) Exploration of ethical and legal boundaries as well as issues and problems facing today's journalist. (0904015206) Prerequisite: ENGL 1301

**COMM 2305 - MODERN EDITING**

3 Credits (3 hrs. lec.) Methods of planning and editing modern magazines and newspapers. Emphasis on modular layout, including headlines and pictures. Course requires participation in producing school magazine and newspaper. Some Macintosh computer instruction offered. (0904015106) Prerequisites: Six credits in journalism, or 2nd-year standing and departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

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### COMM 2311 - REPORTING I

3 Credits (2 hrs. lec., 4 hrs. lab.) Basic news reporting techniques with emphasis on news gathering and writing in a newsroom laboratory setting. Word processing skills needed. (0904015706) Prerequisite: ENGL 1301

### COMM 2315 - REPORTING II

3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of COMM 2311 with added emphasis on the practical applications of news writing, gathering and interviewing techniques. Students should be prepared to produce computer copy for off-campus publications as well as for the campus newspaper. (0904015806) Prerequisite: COMM 2311

### COMM 2327 - PRINCIPLES OF ADVERTISING

3 Credits (3 hrs. lec.) History of advertising and its effect on mass media. Review of current advertising and its impact on business and industry throughout the ages. (0909035106) Prerequisite: ENGL 1301 or departmental approval

### COMM 2389 - ACADEMIC COOPERATIVE IN COMMUNICATIONS

3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of communication. The external learning experiences are unpaid and must have faculty approval. (2401035212) Prerequisites: Instructor approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### COSC 1309 - LOGIC DESIGN

3 Credits (3 hrs. lec., 2 hrs. lab.) A discipline approach to problem solving with structured techniques and representation of algorithms using pseudocodes and graphical tools. Discussion of methods for testing, evaluation, and documentation. COSC 1401 is recommended prior to enrolling. (1102015107) [This course is recommended for four-year transfer students.] Prerequisites: ITSC 1401/COSC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### COSC 1401 - INTRODUCTION TO COMPUTERS

4 Credits (3 hrs. lec., 2 hrs. lab.) Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. (1101015107) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375

### COSC 1420 - "C" LANGUAGE

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files. (1102015207) [This course is recommended for four-year transfer students.] Prerequisites: COSC 1309; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### COSC 1430 - JAVA LANGUAGE

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to JAVA programming. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, disks/files. (1102015207) [This course is recommended for four-year transfer students.] Prerequisites: COSC 1309; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### COSC 1436 - PROGRAMMING FUNDAMENTALS I

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course is part of the computer science field of study. (1102015507) Prerequisites: MATH 0310; Corequisite: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COSC 1437 - PROGRAMMING FUNDAMENTALS II**

4 Credits (3 hrs. lec., 2 hrs. lab.) Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. This course is part of the computer science field of study. (1102015607) Prerequisites: COSC 1436; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COSC 2420 - ADVANCED "C" LANGUAGE**

4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of C++ programming techniques. Topics include file access methods, data structures, modular programming, program testing, class inheritance, documentation, and other advanced techniques. (1102015307) [This course is recommended for four-year transfer students.] Prerequisites: COSC 1420; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COSC 2425 - COMPUTER ORGANIZATION AND MACHINE LANGUAGE**

4 Credits (3 hrs. lec., 2 hrs. lab.) Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. This course is part of the computer science field of study. (1102015407) Prerequisites: COSC 1436; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**COSC 2436 - PROGRAMMING FUNDAMENTALS III**

4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. This course is part of the computer science field of study. (1102015707) Prerequisites: COSC 1437; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CPMT 1403 - INTRODUCTION TO COMPUTER TECHNOLOGY**

4 Credits (3 hrs. lec., 2 hrs. lab.) A fundamental computer course that provides in-depth explanation of the procedures to utilize hardware and software. Emphasis on terminology, acronyms, and hands-on activities. Specific, hands-on training using word processing, spreadsheets, database, Internet, and personal computer operating system commands (DOS and Windows) are provided. Prerequisites: CELT score of 60; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**CPMT 1445 - COMPUTER SYSTEMS MAINTENANCE**

4 Credits (3 hrs. lec., 2 hrs. lab.) A study of the components within a computer system. Development of testing and troubleshooting skills. Prerequisites: CPMT 1403 or ITSC 1401; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**CPMT 1449 - COMPUTER NETWORKING TECHNOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) A beginning course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations and operations. Prerequisites or corequisite: CPMT 1445; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CPMT 2302 - HOME TECHNOLOGY INTEGRATION**

3 Credits (1 hr. lec., 4 hrs. lab.) A study of integration and maintenance of various home technology subsystems. Includes home automation, security and surveillance, home networks, video and audio networks, and structured wiring. Prerequisite: ITSC 1401

**CPMT 2433 - COMPUTER INTEGRATION**

4 Credits (3 hrs. lec., 2 hrs. lab.) An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multimedia, or data acquisition. Prerequisites: CPMT 1449; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: MATH 1314

## DESCRIPTION OF COURSES

### CPMT 2445 - COMPUTER SYSTEMS TROUBLESHOOTING

4 Credits (3 hrs. lec., 2 hrs. lab.) Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment. Prerequisites: CPMT 1445; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CPMT 2449 - ADVANCED COMPUTER NETWORKING TECHNOLOGY

4 Credits (3 hrs. lec., 2 hrs. lab.) An in-depth study of network technology with emphasis on network operating systems, network connectivity, hardware, and software. Mastery of implementation, troubleshooting, and maintenance of LAN and/or WAN network environments. Prerequisites: CPMT 1449; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 1301 - INTRODUCTION TO CRIMINAL JUSTICE

3 Credits (3 hrs. lec.) An overview of the criminal justice system. Topics include the history and philosophy of criminal justice, the definition of crime, and its nature and impact. (4301045124) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 1306 - COURT SYSTEMS AND PRACTICES

3 Credits (3 hrs. lec.) Examination of the role of the judiciary in the criminal justice system. Topics include the structure of the American court system, prosecution, right to counsel, pretrial release, grand jury process, adjudication process, types and rules of evidence, and sentencing concepts. (2201015424) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 1307 - CRIME IN AMERICA

3 Credits (3 hrs. lec.) The study of crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and crime prevention. (4504015225) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 1310 - FUNDAMENTALS OF CRIMINAL LAW

3 Credits (3 hrs. lec.) Study of the nature of criminal law. Topics include philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties, and individual criminal responsibilities. (2201015324) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 1313 - JUVENILE JUSTICE SYSTEM

3 Credits (3 hrs. lec.) A study of the juvenile justice process. Topics include specialized juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. (4301045224) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 2301 - COMMUNITY RESOURCES IN CORRECTIONS

3 Credits (3 hrs. lec.) An overview of diversionary practices and treatment programs available to offenders in a local context. Topics include selected recognized models and future trends in community treatment. (4301045324) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 2313 - CORRECTIONAL SYSTEMS AND PRACTICES

3 Credits (3 hrs. lec.) A study of the role of corrections in the criminal justice system. Topics include organization and theory of correctional systems, institutional operations, management, alternatives to institutionalization, treatments and rehabilitation, and current and future issues. (4301045424) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### CRIJ 2314 - CRIMINAL INVESTIGATION

3 Credits (3 hrs. lec.) Study of investigative theory, the collection and preservation of evidence, sources of information, concepts of interviewing and interrogation, the use of forensic sciences, and trial preparation. (4301045524) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing



**CRJ 2323 - LEGAL ASPECTS OF CRIMINAL JUSTICE**

3 Credits (3 hrs. lec.) Exploration of police authority. Topics include responsibilities and constitutional restraints, laws of arrest, search and seizure, and police liability. (4301045624) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CRJ 2328 - POLICE SYSTEMS AND PRACTICES**

3 Credits (3 hrs. lec.) Exploration of the profession of police officer. Topics include organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues. (4301045724) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**CSME 1248 - PRINCIPLES OF SKIN CARE**

2 Credits (6 hrs. lab.) An introduction to the theory and practice of skin care. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: CSME 1420 and 1421

**CSME 1254 - ARTISTRY OF HAIR DESIGN I**

2 Credits (1 hr. lec., 4 hrs. lab.) Introduction to hair design. Topics include the theory and applications of wet styling, thermal hair styling, and finishing techniques. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: CSME 1310, 1501, and 1505

**CSME 1310 - INTRODUCTION TO HAIRCUTTING AND RELATED THEORY**

3 Credits (1 hr. lec., 8 hrs. lab.) Introduction to the theory and practice of hair cutting. Topics include terminology, implements, section haircutting and finishing techniques. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: CSME 1254, 1501, and 1505

**CSME 1420 - ORIENTATION TO FACIAL SPECIALIST**

4 Credits (2 hrs. lec., 7 hrs. lab.) An overview of the skills and knowledge necessary for the field of facials and skin care. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL

0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 1248 and 1421

**CSME 1421 - PRINCIPLES OF FACIAL AND SKIN CARE TECHNOLOGY I**

4 Credits (2 hrs. lec., 6 hrs. lab.) An introduction to the principles of facial and skin care technology. Topics include anatomy, physiology, theory, and related skills of facial and skin care technology. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 1248 and 1420

**CSME 1434 - COSMETOLOGY INSTRUCTOR**

4 Credits (2 hrs. lec., 6 hrs. lab.) The fundamentals of instruction of cosmetology students. Requires LSCS liability insurance. Prerequisite: ENGL 1301; Corequisite: CSME 1435 and 2414

**CSME 1435 - ORIENTATION TO THE INSTRUCTION OF COSMETOLOGY**

4 Credits (2 hrs. lec., 6 hrs. ext.) An overview of the skills and knowledge necessary for the instruction of cosmetology students. Requires LSCS liability insurance. Prerequisites: 3 years of field experience, Texas operator's license and 12 credit hours of academic work including ENGL 1301; Corequisite: CSME 1434 and 2414

**CSME 1445 - PRINCIPLES OF FACIAL AND SKIN CARE TECHNOLOGY II**

4 Credits (2 hrs. lec., 7 hrs. lab.) A continuation of the concepts and principles in skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and related skills of facial and skin care technology. Prerequisite: CSME 1421 with a "C" or better; Corequisite: CSME 2431 and CSME 1447

**CSME 1447 - PRINCIPLES OF SKIN CARE/FACIAL AND RELATED THEORY**

4 Credits (2 hrs. lec., 6 hrs. lab.) In-depth coverage of the theory and practice of skin care, facials, and cosmetics. Prerequisite: CSME 142; Corequisite: CSME 1445 and CSME 2431

**CSME 1501 - ORIENTATION TO COSMETOLOGY**

5 Credits (3 hrs. lec., 8 hrs. lab.) An overview of the skills and knowledge necessary for the field of

## DESCRIPTION OF COURSES

cosmetology. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 1254, 1310, and 1505

### **CSME 1505 - FUNDAMENTALS OF COSMETOLOGY**

5 Credits (3 hrs. lec., 8 hrs. lab.) A course in the basic fundamentals of cosmetology. Topics include safety and sanitation, service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: CSME 1254, 1310, and 1501

### **CSME 1553 - CHEMICAL REFORMATION AND RELATED THEORY**

5 Credits (3 hrs. lec., 8 hrs. lab.) Presentation of the theory and practice of chemical reformation. Topics include terminology, application, and workplace competencies related to chemical reformation. Prerequisites: CSME 1254, 1310, 1501, and 1505 with a "C" or better; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2501

### **CSME 2310 - INTERMEDIATE HAIRCUTTING AND RELATED THEORY**

3 Credits (1 hr. lec., 4 hrs. lab.) Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razors, and/or clippers. Requires LSCS liability insurance. Prerequisites: CSME 1553 and 2501 with a "C" or better; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2337

### **CSME 2337 - ADVANCED COSMETOLOGY TECHNIQUES**

3 Credits (1 hr. lec., 8 hrs. lab.) Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2310

### **CSME 2414 - COSMETOLOGY INSTRUCTOR II**

4 Credits (2 hrs. lec., 6 hrs. lab.) A continuation of the fundamentals of instruction of cosmetology students. Corequisites: CSME 1434 and 1435

### **CSME 2415 - COSMETOLOGY INSTRUCTOR III**

4 Credits (2 hrs. lec., 6 hrs. lab.) Presentation of assignments and evaluation techniques for a cosmetology program. Prerequisite: ENGL 1301; Corequisite: CSME 2444 and CSME 2445

### **CSME 2431 - PRINCIPLES OF FACIALS AND SKIN CARE TECHNOLOGY III**

4 Credits (2 hrs. lec., 6 hrs. lab.) Demonstrate concepts and principles of skin care and other related technologies. Corequisite: CSME 1445 and CSME 1447

### **CSME 2444 - COSMETOLOGY INSTRUCTOR IV**

4 Credits (2 hrs. lec., 6 hrs. lab.) Advanced concepts of instruction in a cosmetology program. Topics include demonstration and implementation of advanced evaluation and assessment techniques. Prerequisite: ENGL 1301; Corequisite: CSME 2415 and CSME 2445

### **CSME 2445 - INSTRUCTIONAL THEORY AND CLINIC OPERATION**

4 Credits (2 hrs. lec., 6 hrs. lab.) An overview of the objectives required by the Texas Department of Licensing and Regulation, Instructor Examination. Prerequisite: ENGL 1301; Corequisites: CSME 2415 and CSME 2444

### **CSME 2501 - PRINCIPLES OF HAIR COLORING AND RELATED THEORY**

5 Credits (3 hrs. lec., 8 hrs. lab.) Presentation of the theory and practice of hair color and chemistry. Topics include terminology, application, and workplace competencies related to hair color and chemistry. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 1553

### **CSME 2539 - ADVANCED HAIR DESIGN**

5 Credits (3 hrs. lec., 8 hrs. lab.) Advanced concepts in the theory and practice of hair design. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2541

**CSME 2541 - PREPARATION FOR THE STATE LICENSING EXAMINATION**

5 Credits (3 hrs. lec., 8 hrs. lab.) Preparation for the Texas Department of Licensing and Regulation Examination. Prerequisites: CSME 2310 and 2337 with a "C" or better or departmental approval; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2539

**DAAC 1304 - PHARMACOLOGY OF ADDICTION**

3 Credits (3 hrs. lec.) Emphasizes pharmacological effects of addiction, tolerance, dependence, cross addiction, drug interaction, withdrawal, and recovery. Describes the psychological and physiological effects of substance use and behaviors. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 1309 - ASSESSMENT SKILL OF ALCOHOL AND OTHER DRUG ADDICTIONS**

3 Credits (3 hrs. lec.) Exploration of procedures and tools used to identify and assess a client's problems, strengths, deficits, and needs. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 1311 - COUNSELING THEORIES**

3 Credits (3 hrs. lec.) An examination of the major theories and current treatment modalities used in the field of counseling. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 1317 - BASIC COUNSELING SKILLS**

3 Credits (3 hrs. lec.) An overview of basic counseling skills. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 1319 - INTRODUCTION TO ALCOHOL AND OTHER DRUG ADDICTIONS**

3 Credits (3 hrs. lec.) An overview of causes and consequences of addiction, the major drug classifications, and the counselor's code of ethics. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 2160 - CLINICAL**

1 Credit (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: DAAC 1317, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 2260 - CLINICAL**

2 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: DAAC 1317, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 2341 - COUNSELING ALCOHOL AND OTHER DRUG ADDICTIONS**

3 Credits (3 hrs. lec.) Advanced examination of skills, confidentiality, and ethical guidelines applied in the counseling, treatment, and recovery of substance use disorders. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 2343 - CURRENT ISSUES**

3 Credits (3 hrs. lec.) Examination of current issues in addiction. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 2354 - DYNAMICS OF GROUP COUNSELING**

3 Credits (3 hrs. lec.) Exploration of group counseling skills, techniques, and stages of group development, and confidentiality and ethics. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

**DAAC 2360 - CLINICAL**

3 Credit (18 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: DAAC 1317, DAAC 2354 and SCWK 1321; ENGL

## DESCRIPTION OF COURSES

0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

### DANC 1151 - DANCE PERFORMANCE I

1 Credit (3 hrs. lab.) This course provides the students with the opportunity to participate in the rehearsal and performance of dance works. (5003015226) Prerequisite: None; Corequisite: Enrollment in a dance technique course

### DANC 1152 - DANCE PERFORMANCE II

1 Credit (3 hrs. lab.) This course is a continuation of DANC 1151. Opportunities are provided to participate in the rehearsal and performance of dance works. (5003015226) Prerequisite: DANC 1151; Corequisite: Enrollment in a dance technique course

### DANC 1210 - TAP I

2 Credits (1 hr. lec., 2 hrs. lab.) Instruction and participation in tap dance. (5003015226) Prerequisite: None

### DANC 1211 - TAP II

2 Credits (1 hr. lec., 2 hrs. lab.) This is a continuation of DANC 1210 with instruction and participation in tap dance. (5003015226) Prerequisite: DANC 1210 or instructor approval

### DANC 1241 - BALLET I

2 Credits (1 hr. lec., 2 hrs. lab.) This introductory course provides instruction and practice in beginning ballet technique. Emphasis is upon placement, alignment, technique and terminology. Classical ballet barre, center work and floor combinations are utilized. (5003015226) Prerequisite: None

### DANC 1242 - BALLET II

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1241 and provides additional instruction and practice in beginning ballet technique. Emphasis is upon placement, alignment, technique and terminology. Classical ballet barre, center work and floor combinations are utilized. (5003015226) Prerequisite: DANC 1241 or instructor approval

### DANC 1245 - MODERN DANCE I

2 Credits (1 hr. lec., 2 hrs. lab.) This introductory course provides instruction and practice in beginning modern dance technique. Emphasis is upon place-

ment, alignment, technique and terminology. Basic floor, center and locomotor techniques are utilized. (5003015226) Prerequisite: None

### DANC 1246 - MODERN DANCE II

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1245. It provides intermediate instruction and practice in modern dance technique. Emphasis continues to be upon placement, alignment, technique and terminology. Intermediate patterns of floor, center and locomotor technique are used. (5003015226) Prerequisite: DANC 1245 or instructor approval

### DANC 1247 - JAZZ I

2 Credits (1 hr. lec., 2 hrs. lab.) This introductory course provides instruction and practice in beginning jazz dance. Emphasis is upon placement, alignment, technique and terminology. Body awareness and development, rhythm awareness, jazz styles and rhythmic combinations of movement are studied. (5003015226) Prerequisite: None

### DANC 1248 - JAZZ II

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1247. It provides intermediate instruction and practice in jazz dance technique. Emphasis continues to be upon placement, alignment, technique and terminology. Intermediate patterns involving body awareness and development, rhythm awareness, jazz styles and rhythmic combinations of movement are studied. (5003015226) Prerequisite: DANC 1247 or instructor approval

### DANC 1301 - DANCE COMPOSITION

3 Credits (3 hrs. lec.) This course provides instruction and practice in the analysis of the basic elements of dance. Emphasis is upon the use of space, rhythm, time and energy. Opportunities to analyze, explore, and study elements of movement design are provided. (5003015526) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DANC 2151 - DANCE PERFORMANCE III

1 Credit (3 hrs. lab.) This course is a continuation of DANC 1152. This course provides students with the opportunity to participate in the rehearsal and performance of intermediate and advanced performance technique. (5003015226) Prerequisite: DANC 1152 or instructor approval; Corequisite: Enrollment in a dance technique course

**DANC 2152 - DANCE PERFORMANCE IV**

1 Credit (3 hrs. lab.) This course is a continuation of DANC 2151. This course provides students with the opportunity to participate in the rehearsal and performance of intermediate and advanced performance technique. (5003015226) Prerequisite: DANC 2151 or instructor approval; Corequisite: Enrollment in a dance technique course

**DANC 2208 - TAP III**

2 Credits (1 hr. lec., 2 hrs. lab.) This is a continuation of DANC 1211 with intermediate instruction and preparation in tap dance. (5003015226) Prerequisite: DANC 1211 or instructor approval

**DANC 2209 - TAP IV**

2 Credits (1 hr. lec., 2 hrs. lab.) This is a continuation of DANC 2208 with more advanced instruction and preparation in tap dance. (5003015226) Prerequisite: DANC 2208 or instructor approval

**DANC 2241 - BALLET III**

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1242. The development of ballet technique is continued. More complex exercises at the barre and center are included. Emphasis is on longer series of movement, adagio, and allegro with precision of movement. (5003015226) Prerequisite: DANC 1242 or instructor approval

**DANC 2242 - BALLET IV**

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2241. It is designed for the advanced level student. Skills include advanced barre and center work, refining basic movement technique and extensive work on dance routines. Pointe work may be introduced. (5003015226) Prerequisite: DANC 2241 or instructor approval

**DANC 2245 - MODERN DANCE III**

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1246. The development of modern dance technique is continued. More complex floor, center and locomotor exercises are included. Emphasis is on elements of modern dance movement including time, force and space. Longer and more complex series of movements are utilized. (5003015226) Prerequisite: DANC 1246 or instructor approval

**DANC 2246 - MODERN DANCE IV**

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2245. The development of modern dance technique is continued. More complex floor, center and locomotor exercises are included. Emphasis is on elements of modern dance movement including time, force and space. Longer and more complex series of movements are utilized. (5003015226) Prerequisite: DANC 2245 or instructor approval

**DANC 2247 - JAZZ III**

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1247. It is designed for the advanced level student. Skills include the performance and development of complex jazz rhythms, turns and jumps. (5003015226) Prerequisite: DANC 1248 or instructor approval

**DANC 2248 - JAZZ IV**

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2247. It is designed for the advanced level student. Skills include the performance and development of complex jazz rhythms, turns and jumps. (5003015226) Prerequisite: DANC 2247 or instructor approval

**DANC 2303 - DANCE APPRECIATION**

3 Credits (3 hrs. lec.) The cultural, historical and aesthetic qualities of dance are presented through lectures, films, videos, and dance productions. Primitive, classical and contemporary dance forms are included. (5003015426) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DFTG 1305 - TECHNICAL DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, and auxiliary views. Prerequisite: None

**DFTG 1309 - BASIC COMPUTER-AIDED DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to computer-aided drafting. Emphasis is placed on setup; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinate systems; and plot/print to scale. Prerequisite: None

## DESCRIPTION OF COURSES

### **DFTG 1317 - ARCHITECTURAL DRAFTING RESIDENTIAL**

3 Credits (2 hrs. lec., 4 hrs. lab.) Architectural drafting procedures, practices, terms, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods. Prerequisites: DFTG 1305, DFTG 1309, DFTG 2331 and CNBT 1311

### **DFTG 1325 - BLUEPRINT READING AND SKETCHING**

3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to reading and interpreting working drawings for manufactured products and associated tooling; use sketching techniques to create pictorial and multiple-view drawings. The student will solve related math equations, geometric dimensioning and tolerancing; and interpreted shop operations. Prerequisites: Placement into MATH 1314 or credit for MATH 0310 with a grade of "C" or better; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; or instructor approval

### **DFTG 1371 - METAL BUILDING SYSTEMS I**

3 Credits (3 hrs. lec.) Course introduces the student to pre-engineered metal building framing, component and design systems. Prerequisite: CNBT 1311

### **DFTG 2302 - MACHINE DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) Production of detail and assembly drawings of machines, threads, gears, utilizing tolerances, limit dimensioning, and surface finishes. Prerequisites: DFTG 1305 and DFTG 1309

### **DFTG 2307 - ELECTRICAL DRAFTING**

3 Credits (2 hrs. lec., 2 hrs. lab.) A study of area lighting, control systems and power layouts, electrical and safety codes, load factors and distribution requirements. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **DFTG 2319 - INTERMEDIATE COMPUTER-AIDED DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of practices and techniques used in basic computer-aided drafting including the development and use of prototype drawings, construction of pictorial drawings, extracting data, and basics of 3D. Prerequisite: DFTG 1309 or departmental approval

### **DFTG 2321 - TOPOGRAPHICAL DRAFTING**

3 Credits (2 hrs. lec., 2 hrs. lab.) Plotting of surveyor's field notes. Includes drawing elevations, contour lines, plan and profiles based on digital terrain models, and laying out traverses. Prerequisites: DFTG 1309, ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **DFTG 2323 - PIPE DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) A study of pipe fittings, symbols, specifications and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics. Prerequisites: DFTG 1305 and DFTG 1309

### **DFTG 2328 - ARCHITECTURAL DRAFTING COMMERCIAL**

3 Credits (2 hrs. lec., 4 hrs. lab.) Architectural drafting procedures, practices, governing codes, terms and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods. Prerequisites: DFTG 1305, 1309 and CNBT 1311 or DFTG 2319 and DFTG 2331

### **DFTG 2331 - ADVANCED TECHNOLOGIES IN ARCHITECTURAL DESIGN AND DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture. Prerequisites: DFTG 1305 and DFTG 1309

### **DFTG 2335 - ADVANCED TECHNOLOGIES IN MECHANICAL DESIGN AND DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) Use parametric based mechanical design software for mechanical assembly design and drafting. Prerequisite: DFTG 1305 AND MCHN 1319 or DFTG 1309

### **DFTG 2336 - COMPUTER AIDED DRAFTING PROGRAMMING**

3 Credits (2 hrs. lec., 4 hrs. lab.) Use of programming language to enhance CAD Software. Prerequisites: DFTG 1305 and 1309 or 2319; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DFTG 2338 - FINAL PROJECT: ADVANCED DRAFTING**

3 Credits (2 hrs. lec., 4 hrs. lab.) A drafting course in which students participate in a comprehensive project from conception to conclusion. Prerequisite: Departmental approval

**DFTG 2340 - SOLID MODELING/DESIGN**

3 Credits (2 hrs. lec., 4 hrs. lab.) A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work. Prerequisites: DFTG 1305 and DFTG 1309

**DFTG 2371 - METAL BUILDING SYSTEMS II**

3 Credits (2 hrs. lec., 4 hrs. lab.) Course introduces student to detailing, fabrication, and field erection of pre-engineered metal building framing and component systems. Prerequisites: DFTG 1371; MATH 1316

**DHYG 1160 - CLINICAL DENTAL HYGIENE/HYGIENIST II**

1 Credit (6 hrs. ext.) This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the Lone Star College-Kingwood campus. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1211, 1207, 1260 and 2201; BIOL2305; ENGL0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: DHYG 1219

**DHYG 1203 - PREVENTIVE DENTAL HYGIENE I**

2 Credits (2 hrs. lec., 1 hr. lab.) The role of the dental hygienist as a therapeutic oral health care provider with emphasis on concepts of disease management, health promotion, communication and behavior modification. Requires LSCS liability insurance. Prerequisites: Acceptance into the dental hygiene program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1301, 1304 and 1431

**DHYG 1207 - GENERAL AND DENTAL NUTRITION**

2 Credits (2 hrs. lec.) General nutrition and nutritional biochemistry emphasizing the effect nutrition has on oral health. Prerequisites: DHYG, 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: BIOL 2305; DHYG 1211, 1260 and 2201

**DHYG 1211 - PERIODONTOLOGY**

2 Credits (2 hrs. lec., 1 hr. lab.) A study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, treatment modalities and therapeutic and preventive periodontics in a contemporary private practice setting. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: BIOL 2305; DHYG 1207, 1260 and 2201

**DHYG 1215 - COMMUNITY DENTISTRY**

2 Credits (1 hr. lec., 3 hrs. lab.) The principles and concepts of community public health and dental health education emphasizing community assessment, educational planning, implementation, and evaluation including methods and materials used in teaching dental health education in various community settings. Requires LSCS liability insurance. Prerequisites: DHYG 1235, 1239, 2231 and 2362; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 2153 and 2363

**DHYG 1219 - DENTAL MATERIALS**

2 Credits (1 hr. lec, 4 hrs. lab.) Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry. Requires LSCS liability insurance. Prerequisites: DHYG 1207, 1211, 1260 and 2201; BIOL 2305; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: DHYG 1160

**DHYG 1235 - PHARMACOLOGY FOR THE DENTAL HYGIENIST**

2 Credits (2 hrs. lec.) Classification of drugs and their uses, actions, interactions, side effects, contraindications, with emphasis on dental applications. Prerequisites: DHYG 1160 and 1219; ENGL 0305

## DESCRIPTION OF COURSES

or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1239, 2231 and 2362

### **DHYG 1239 - GENERAL AND ORAL PATHOLOGY**

2 Credits (2 hrs. lec.) Disturbances in human body development, diseases of the body and disease prevention measures. Emphasis is on the oral cavity and associated structures. Prerequisites: DHYG 1160 and 1219; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1235, 2231 and 2362

### **DHYG 1260 - CLINICAL DENTAL HYGIENE/HYGIENIST I**

2 Credits (12 hrs. ext.) This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the Lone Star College-Kingwood campus. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: BIOL 2305; DHYG 1207, 1211 and 2201

### **DHYG 1301 - OROFACIAL ANATOMY, HISTOLOGY AND EMBRYOLOGY**

3 Credits (2 hrs. lec., 3 hrs. lab.) The study of histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology and individual tooth identification. Prerequisites: Acceptance into the dental hygiene program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: BIOL 2402; DHYG 1203, 1304 and 1431

### **DHYG 1304 - DENTAL RADIOLOGY**

3 Credits (2 hrs. lec., 4 hrs. lab.) Fundamentals of oral radiography, including techniques, interpretation, quality assurance, and ethics. Requires LSCS liability insurance. Prerequisites: Acceptance into the dental

hygiene program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: BIOL 2402; DHYG 1203, 1301 and 1431

### **DHYG 1431 - PRECLINICAL DENTAL HYGIENE**

4 Credits (2 hrs. lec., 6 hrs. lab.) Foundational knowledge for performing clinical skills on patients with emphasis on procedures and rationale for performing dental hygiene care. Introduction to ethical principles as they apply to dental hygiene care. Requires LSCS liability insurance. Prerequisites: Acceptance into the dental hygiene program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1203, 1301 and 1304

### **DHYG 2153 - DENTAL HYGIENE PRACTICE**

1 Credit (1 hr. lec.) Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession. Practice settings for the dental hygienist, office operations, and preparation for employment. Prerequisites: DHYG 1235, 1239, 2231 and 2362; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1215 and 2363

### **DHYG 2201 - CONTEMPORARY DENTAL HYGIENE CARE I**

2 Credits (2 hrs. lec., 1 hr. lab.) Dental hygiene care for the medically or dentally compromised patient including supplemental instrumentation techniques. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: BIOL 2305; DHYG 1207, 1211 and 1260

### **DHYG 2231 - CONTEMPORARY DENTAL HYGIENE CARE II**

2 Credits (2 hrs. lec., 1 hr. lab.) A continuation of Contemporary Dental Hygiene Care 1. Dental hygiene care for the medically or dentally compromised patient including advanced instrumentation techniques. Requires LSCS liability insurance. Prerequisites: DHYG 1160 and 1219; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1235, 1239 and 2362



**DHYG 2362 - CLINICAL DENTAL HYGIENE/  
HYGIENIST III**

3 Credits (16 hrs. ext.) This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the LSC-Kingwood campus as well as external clinical sites. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1160 and 1219; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 1235 and DHYG 1239

**DHYG 2363 - CLINICAL DENTAL HYGIENE/  
HYGIENIST IV**

3 Credits (16 hrs. ext.) A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the LSC-Kingwood campus as well as external clinical sites. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1235, 1239, 2231 and 2362; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: DHYG 2153 and 1215

**DMSO 1210 - INTRODUCTION TO SONOGRAPHY**

2 Credits (1 hr. lec., 2 hrs. lab.) An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues relating to registry, accreditation, professional organizations and history of the profession. Prerequisites: Admission to program; Corequisites: DMSO 1360, DMSO 1405, DMSO 1302 and DMSO 1351, OR DMSO 1302, DSAE 1415 and DSAE 1360

**DMSO 1302 - BASIC ULTRASOUND PHYSICS**

3 Credits (2 hrs. lec., 2 hrs. lab.) Basic acoustical physics and acoustical waves in human tissue. Emphasis on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams. Prerequisites: Admission to the program; Corequisites: DMSO 1360, DMSO 1351, DMSO 1210 and DMSO 1405, OR DMSO 1210, DSAE 1415 and DSAE 1360

**DMSO 1342 - INTERMEDIATE ULTRASOUND  
PHYSICS**

3 Credits (2 hrs. lec., 2 hrs. lab.) Continuation of Basic Ultrasound Physics. Includes interaction of ultrasound with tissues, mechanics of ultrasound production and display, various transducer designs and construction, quality assurance, bioeffects, and image artifacts. May introduce methods of Doppler flow analysis. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405 OR DSAE 1415 and 1360; Corequisites: DMSO 1366, 2253 and 2405, OR DSAE 2403 and 2404

**DMSO 1351 - SONOGRAPHIC SECTIONAL  
ANATOMY**

3 Credits (2 hrs. lec., 3 hrs. lab.) Sectional anatomy of the male and female body. Includes anatomical relationships of organs, vascular structures, and body planes and quadrants. Prerequisites: Admission to the program; Corequisites: DMSO 1210, 1302, 1360 and 1405

**DMSO 1360 - CLINICAL - DIAGNOSTIC MEDICAL  
SONOGRAPHY TECHNICIAN**

3 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Admission to the program; Corequisites: DMSO 1210, 1302, 1351 and 1405

**DMSO 1366 - PRACTICUM I**

3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405; Corequisites: DMSO 1342, 2253 and 2405

## DESCRIPTION OF COURSES

### DMSO 1367 - PRACTICUM II

3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1342, 1366, 2253 and 2405; Corequisites: DMSO 2342 and 2351

### DMSO 1405 - SONOGRAPHY OF ABDOMINOPELVIC CAVITY

4 Credits (3 hrs. lec., 2 hrs. lab.) Normal and pathological abdominal and pelvic structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisite: Admission to diagnostic medical sonography program; Corequisites: DMSO 1210, 1302, 1351 and 1360

### DMSO 2130 - ADVANCED ULTRASOUND REVIEW

1 Credit (3 hrs. lab.) Knowledge, skills, and professional values within a legal and ethical framework addressing emerging technologies and professional development. Prerequisites: DMSO 1367, 2342 and 2351 OR DSAE 2437 and DSAE 2364; Corequisites: DMSO 2245, 2366 and DSVT 2200, OR DSAE 2235, 2365 and DSVT 2200

### DMSO 2245 - ADVANCED SONOGRAPHY PRACTICES

2 Credits (2 hrs. lec.) Exploration of advanced sonographic procedures and emerging ultrasound applications. Prerequisites: DMSO 1367, 2351, 2342; Corequisites: DMSO 2130, 2366 and DSVT 2200

### DMSO 2253 - SONOGRAPHY OF SUPERFICIAL STRUCTURES

2 Credits (2 hrs. lec., 1 hr. lab.) Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405; Corequisites: DMSO 1342, 1366 and 2405

### DMSO 2342 - SONOGRAPHY OF HIGH RISK OBSTETRICS

3 Credits (3 hrs. lec., 1 hr. lab.) Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: Departmental approval; DMSO 1342, 1366, 2253 and 2405; Corequisites: DMSO 1367 and 2351

### DMSO 2351 - DOPPLER PHYSICS

3 Credits (2 hrs. lec., 3 hrs. lab.) Doppler and hemodynamic principles relating to arterial and venous imaging and testing. Prerequisites: DMSO 1342, 1366, 2253 and 2405 OR DSAE 2403, 1364 and 2404; Corequisites: DMSO 1367 and 2342, OR DSAE 2437 and 2364

### DMSO 2366 - PRACTICUM III

3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1367, 2342 and 2351; Corequisites: DMSO 2130, 2245 and DSVT 2200

### DMSO 2405 - SONOGRAPHY OF OBSTETRICS/ GYNECOLOGY

4 Credits (3 hrs. lec., 2 hrs. lab.) Detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405; Corequisites: DMSO 1342, 1366, and 2253

### DRAM 1120, 1121, 2120, 2121 - THEATRE PRACTICUM

1 Credit (3 hrs. lab.) This course is open to all students interested in theatrical production and is recommended for all students participating in productions. Credit is earned for technical work (costuming, lighting, set construction, publicity and make-up), performance work, or other participation as designated by departmental faculty. It may be taken for four credit hours maximum. (5005065326) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DRAM 1161, 1162 - MUSICAL THEATRE I AND II

1 Credit (5 hrs. lab.) This course provides practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1220 - THEATRE PRACTICUM: LIGHTING AND SOUND**

2 Credits (1 hr. lec., 2 hrs. lab.) This course provides students a foundation in lighting and sound for the theatre. Classroom instruction supports the hands-on experience in designing and providing technical support for theatre productions and events. (5005065326) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1310 - INTRODUCTION TO THEATRE**

3 Credits (3 hrs. lec.) This course surveys dramatic arts including plays, basic theories, history, stages, make-up, costuming, acting and directing. It provides an introduction to the theatre plant and theatre activities augmented by textbook study of stage terminology and an introduction to the organization of production procedure. (5005015126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1322 - STAGE MOVEMENT**

3 Credits (3 hrs. lec.) Basic postural alignment and movement, emphasis on body awareness and rhythm. (5005065426) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1330 - STAGECRAFT I**

3 Credits (2 hrs. lec., 4 hrs. lab.) This lecture-laboratory course introduces students to the aesthetics and practice of stagecraft design and provides the student with a basic understanding of the design requirements for the technical aspects of a play. This course will include hands-on design experience. (5005025126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1341 - INTRODUCTION TO MAKE-UP**

3 Credits (1 hr. lec., 4 hrs. lab.) The design and execution of make-up for the purpose of developing believable characters. A discussion of basic makeup principles and practical experience of makeup application. (5005025226) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1342 - INTRODUCTION TO COSTUME**

3 Credits (2 hrs. lec., 2 hrs. lab.) This course introduces students to the principles and techniques of costume design and construction for theatrical productions. Students interested in concentrating on costume design should also enroll in DRAM 2331 Stagecraft for a more extensive laboratory experience. (5005025326) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1351 - ACTING I**

3 Credits (3 hrs. lec.) This course provides an introduction to the art of acting, emphasizing the techniques of speech and movement on the stage, pantomime, character analysis, through participation in lab scenes, improvisations and departmental productions. (5005065126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 1352 - ACTING II**

3 Credits (3 hrs. lec.) An introduction to the art of acting, with an emphasis on developing vocal and physical skills through work on monologues and scenes as exhibited in various historical periods. (5005065126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 2331 - STAGECRAFT II**

3 Credits (2 hrs. lec., 4 hrs. lab.) This lecture-laboratory course gives the student a knowledge of the technical phases of mounting a production on stage. The elements of study emphasize basic construction, painting and lighting of the stage setting. (5005025126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**DRAM 2336 - VOICE FOR THE THEATRE**

3 Credits (3 hrs. lec.) This course covers the basic principles of voice production and development, including diction as it applies to the interpretation of selected literature. Intensive practical application through classroom exercises and special projects is required. (5005065226) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

## DESCRIPTION OF COURSES

### DRAM 2361 - THEATRE HISTORY TO 1700

3 Credits (3 hrs. lec.) A study of the history of theatre to 1700. Includes a study of the physical theatre, acting styles, costumes and sets, representative plays, and theories of drama. (5005055126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DRAM 2362 - THEATRE HISTORY FROM 1700

3 Credits (3 hrs. lec.) A study of the history of the theatre from 1700 to the present. Includes a study of the physical theatre, acting styles, costumes and sets, representative plays, and theories of drama. (5005055126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DRAM 2363 - HISTORY OF MUSICAL THEATRE

3 Credits (3 hrs. lec.) The history and development of music theatre excluding opera. (5005055126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DRAM 2366 - DEVELOPMENT OF THE MOTION PICTURE

3 Credits (3 hrs. lec.) Explores the history and development of film with emphasis on the analysis of the visual and aural dramatic aspects of narrative films. The historical growth and sociological effect of film as an art. (5006025126) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DRAM 2389 - ACADEMIC CO-OP IN DRAMA

3 Credits (1 hr. lec., 6 hrs. lab.) This course provides an instructional program designed to integrate on-campus study with practical hands-on work experience in drama. In conjunction with class seminars, the individual student will set specific goals and objectives in drama. (2401035212) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### DSAE 1360 - CLINICAL

3 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Admission to the program; Corequisites: DMSO 1210, DMSO 1302 and DSAE 2403

### DSAE 1364 - PRACTICUM I

3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360 and DSAE 1415; Corequisites: DMSO 1342, DSAE 2404 and DSAE 2403

### DSAE 1415 - PRINCIPLES OF ADULT ECHOCARDIOGRAPHY

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to cardiovascular anatomy and physiology, including hemodynamics and spatial relationships of the normal adult heart. Topics include anatomical correlation of 2-D, M-Mode, and Doppler sonographic imaging. Scanning techniques are correlated and taught in the laboratory sessions. Prerequisites: Admission to program; Corequisites: DMSO 1210, DMSO 1302, DSAE 1360

### DSAE 2235 - ADVANCED ECHOCARDIOGRAPHY

2 Credits (1 hr. lec., 3 hrs. lab.) Advanced echocardiographic procedures. Topics include stress echo, related diagnostic imaging, and related noninvasive cardiac testing. Prerequisites: DMSO 2351, DSAE 2437 and DSAE 2364; Corequisites: DSVT 2200, DMSO 2130 and DSAE 2365

### DSAE 2364 - PRACTICUM II

3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DSAE 1364, DSAE 2403, DSAE 2404 and DMSO 1342; Corequisites: DMSO 2351 and DSAE 2437

**DSAE 2365 - PRACTICUM III**

3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 2351, DSAE 2437 and DSAE 2364; Corequisites: DSVT 2200, DMSO 2130 and DSAE 2235

**DSAE 2403 - CARDIOVASCULAR CONCEPTS**

4 Credits (3 hrs. lec., 2 hrs. lab.) Anatomy, physiology, and pathophysiology of the cardiovascular system. Focuses on cardiac and vascular structural anatomy and relationships, electrical innervation, embryology, and hemodynamics of the heart and vascular system. Includes pathophysiology, etiology, pathology, signs, symptoms, risk factors, and treatment of cardiovascular diseases. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360, and DSAE 1415; Corequisites: DMSO 1342, DSAE 1364, and DSAE 2404

**DSAE 2404 - ECHOCARDIOGRAPHIC EVALUATION OF PATHOLOGY I**

4 Credits (3 hrs. lec., 2 hrs. lab.) Adult acquired cardiac pathologies. Topics include cardiovascular pathophysiology, quantitative measurements, and the application of 2-D, M-Mode, and Doppler. Recognition of the sonographic appearances of cardiovascular disease is stressed. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360 and DSAE 1415; Corequisites: DMSO 1342, DSAE 1364 and DSAE 2403

**DSAE 2437 - ECHOCARDIOGRAPHIC EVALUATION OF PATHOLOGY II**

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Echocardiographic Evaluation of Pathology I with emphasis on cardiac disease. A discussion of quantitative measurements and application of 2-D, M-Mode, Doppler and recognition of the sonographic appearances of cardiac disease is stressed. Prerequisites: DSAE 1364, DSAE 2403, DSAE 2404, and DMSO 1342; Corequisites: DMSO 2351 and DSAE 2364

**DSVT 1265 - PRACTICUM II - DIAGNOSTIC MEDICAL SONOGRAPHY AND ULTRASOUND TECHNICIAN**

2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DSVT 1364, DSVT 2330 and DSVT 2418; Corequisite: DSVT 2335

**DSVT 1364 - PRACTICUM I - DIAGNOSTIC MEDICAL SONOGRAPHY AND ULTRASOUND TECHNICIAN**

3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: Associate of Applied Science-Diagnostic Medical Sonography and admission to the certificate program; Corequisites: DSVT 2330 and DSVT 2418

**DSVT 2200 - VASCULAR TECHNOLOGY APPLICATIONS**

2 Credits (1 hr. lec., 4 hrs. lab.) Non-invasive vascular technology. Includes 2-D imaging, Doppler, plethysmography, and segmental pressures. Emphasizes protocols for performing basic venous and arterial imaging and non-imaging exams. Prerequisites: DMSO 1367, 2342 and 2351; Corequisites: DMSO 2130, 2245 and 2366 OR DSAE 2235, 2365 and DMSO 2130

**DSVT 2330 - NON-INVASIVE CEREBRAL VASCULAR EVALUATION**

3 Credits (2 hrs. lec., 2 hrs. lab.) Non-invasive technology for the evaluation and quantification of cerebrovascular disease. Modalities include carotid duplex, periorbital Doppler, and transcranial Doppler. Prerequisites: Associate of Applied Science-Diagnostic Medical Sonography and admission to the certificate program; Corequisites: DSVT 1364 and DSVT 2418

**DSVT 2335 - ADVANCED NON-INVASIVE VASCULAR TECHNOLOGY**

3 Credits (2 hrs. lec., 2 hrs. lab.) Non-invasive vascular concepts. Includes harmonics, contrast, power Doppler, digital intraoperative, intravascular, abdominal vascular, graft surveillance, vascular interventions, and research. Emphasizes extensive review of case studies, technical reporting, preliminary interpretation, and registry review. Prerequisites: DSVT 1364, DSVT 2330 and DSVT 2418; Corequisite: DSVT 1265

**DSVT 2418 - NON-INVASIVE PERIPHERAL VASCULAR EVALUATION**

4 Credits (3 hrs. lec., 3 hrs. lab.) Application of peripheral non-invasive vascular technology for the evaluation and quantification of peripheral vascular diseases. Modalities include venous and arterial duplex and physiologic testing. Prerequisites: Associate of Applied Science-Diagnostic Medical Sonography and admission to the certificate program; Corequisites: DSVT 1364 and DSVT 2330

## DESCRIPTION OF COURSES

### ECON 2301 - MACROECONOMICS

3 Credits (3 hrs. lec.) A study of macroeconomic principles. Analysis of the market economy; national income accounting; income determination; stabilization policies: monetary and fiscal policy; money and banking; demand and supply-side economics; monetarist vs. Keynesian view; inflation theories such as distinction between demand-pull and cost-push theories, Phillips curve analysis; labor market and determination of unemployment rate. (4506015125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### ECON 2302 - MICROECONOMICS

3 Credits (3 hrs. lec.) A study of micro-economic principles. Analysis of theories of consumer behavior, production, cost; equilibrium analysis in product markets under different market structures, such as perfect competition, monopoly, monopolistic competition, oligopoly; cartels and conglomerate mergers; antitrust policy, economics of regulation; analysis of different types of factor markets and factor price determination. (4506015125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### ECRD 1211 - ELECTROCARDIOGRAPHY

2 Credits (1 hr. lec., 2 hrs. lab.) Fundamentals of cardiovascular anatomy and physiology. Includes basic electrocardiography procedures, interpretation of basic dysrhythmias, and appropriate treatment modalities. Additional topics may include spirometry and CPR/AED and First Aid training. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### EDUC 1300 - LEARNING FRAMEWORK: 1<sup>ST</sup> YEAR EXPERIENCE

3 Credits (3 hrs. lec.) A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that influence learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for teaching and learning strategies used in the classroom. Students are ultimately expected to integrate and apply these theories and learning skills discussed. This course serves as the Lone Star College freshman experience

course. (4227015125) Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course OR placement by testing

### EDUC 1301 - INTRODUCTION TO THE TEACHING PROFESSION

3 Credits (3 hrs. lec., 1 hr. ext.) An integrated pre-service course and content experience that is designed for undergraduates interested in a teaching career, especially in high need fields such as secondary math and science education, bilingual education, and special education. The course will include 16 contact hours of field experience in P-12 classrooms. The course content is directly aligned with the State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Students will study the culture of schooling and classrooms from the perspectives of language, gender, socioeconomic, ethnic, and disability-based academic diversity and equity. (1301015109) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### EDUC 1325 - PRINCIPLES AND PRACTICES OF MULTICULTURAL EDUCATION

3 Credits (3 hrs. lec.) An examination of cultural diversity found in society and reflected in the classroom. Topics include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communication and teaching, as well as psychological stressors encountered by diverse cultural groups. (1301015109) Prerequisites: EDUC 1301; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0310

### EDUC 2301 - INTRODUCTION TO SPECIAL POPULATIONS

3 Credits (3 hrs. lec., 1 hr. ext.) An enriched integrated pre-service course and content experience that provides an overview of teaching and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity and equity with an emphasis on factors that facilitate learning. The course will include 16 contact hours of field experience in P-12 classrooms with special populations. The course content is directly aligned with the State Board for Educator Certification Pedagogy and Professional Responsibilities standards. (1310015109) Prerequisites: EDUC 1301 OR departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 1307 - CONVERGENCE TECHNOLOGIES**

3 Credits (1 hr. lec., 4 hrs. lab.) A study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol. Prerequisites: ITSC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 1371 - VOICE OVER INTERNET PROTOCOL**

3 Credits (2 hrs. lec., 3 hrs. lab.) This course addresses the knowledge and skills necessary to install, maintain and repair Voice Over Internet Protocol communications. Prerequisites: ITSC 1401 and 1425; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 1391 - SPECIAL TOPICS**

3 Credits (3 hrs. lec.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 1403 - INTRODUCTION TO TELECOMMUNICATIONS**

4 Credits (3 hrs. lec., 2 hrs. lab.) An overview of the telecommunications industry. Topics include the history of the telecommunications industry, terminology, rules and regulations, and industry standards and protocols. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 1440 - TELECOMMUNICATIONS TRANSMISSION MEDIA**

4 Credits (3 hrs. lec., 2 hrs. lab.) Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 2380 - COOPERATIVE EDUCATION - ELECTRONIC AND COMMUNICATIONS ENGINEERING TECHNOLOGY/TECHNICIAN**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Completion of all courses leading up to the last semester of the program or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 2430 - TELECOMMUNICATIONS SWITCHING**

4 Credits (3 hrs. lec., 2 hrs. lab.) The operation of telecommunications switching equipment and related software. Topics include installation, testing, maintenance, and troubleshooting. Prerequisites: ITCC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 2439 - COMMUNICATIONS CIRCUITS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of communications systems with emphasis on amplitude modulation, frequency modulation, phase modulation, and digital pulse modulation. Discussion of several types of modulators, demodulators, receivers, transmitters, and transceivers. Prerequisites: CETT 1457; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**EECT 2440 - TELECOMMUNICATIONS CENTRAL OFFICE EQUIPMENT**

4 Credits (3 hrs. lec., 2 hrs. lab.) Theory, operation and maintenance of central office telecommunications equipment. Prerequisites: CPMT 1445 or ITSC 1425; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**ELMT 1302 - SOLAR PHOTOVOLTAIC SYSTEMS**

3 Credits (2 hrs. lec., 2 hrs. lab.) Design and installation of solar photovoltaic systems and their applications. Prerequisite: None

## DESCRIPTION OF COURSES

### ELMT 2341 - ELECTROMECHANICAL SYSTEMS

3 Credits (2 hrs. lec., 2 hrs. lab.) Application of electro-mechanical systems. Emphasizes programmable control devices and solid state systems. Prerequisites: ENGL0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ELMT 2433 - INDUSTRIAL ELECTRONICS

4 Credits (3 hrs. lec., 2 hrs. lab.) Devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Includes presentation of programming schemes. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### ELMT 2437 - ELECTRONIC TROUBLESHOOTING, SERVICE, AND REPAIR

4 Credits (3 hrs. lec., 3 hrs. lab.) In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and use of test equipment. May be offered as a capstone course. Prerequisites: CETT 1403 and 1405

### ELPT 1311 - BASIC ELECTRICAL THEORY

3 Credits (3 hrs. lec.) An overview of the theory and practice of electrical circuits including calculations as applied to alternating and direct current. Prerequisite: None

### ELPT 1315 - ELECTRICAL CALCULATIONS I

3 Credits (3 hrs. lec.) Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, and applied geometry. Prerequisite: None

### ELPT 1321 - INTRODUCTION TO ELECTRICAL SAFETY AND TOOLS

3 Credits (4 hrs. lec.) A comprehensive overview of safety rules and regulations and the selection, inspection, use and maintenance of common tools for electricians. Prerequisite: None

### ELPT 1325 - NATIONAL ELECTRICAL CODE I

3 Credits (3 hrs. lec.) An introductory study of the National Electric Code (NEC) for those employed in

fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations. Prerequisite: None

### ELPT 1364 - FIELD EXPERIENCE - ELECTRICAL AND POWER TRANSMISSION INSTALLATION/INSTALLER, GENERAL

3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: Departmental approval

### ELPT 1429 - RESIDENTIAL WIRING

4 Credits (3 hrs. lec., 2 hrs. lab.) Wiring methods for single family and multi-family dwellings. Includes load calculation, service entrance sizing, proper grounding techniques, and associated safety procedures. Prerequisite: ELPT 1325

### ELPT 1445 - COMMERCIAL WIRING

4 Credits (3 hrs. lec., 2 hrs. lab.) Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. Prerequisite: None

### ELPT 2325 - NATIONAL ELECTRICAL CODE II

3 Credits (3 hrs. lec.) In-depth coverage of the National Electrical Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Prerequisite: ELPT 1325

### EMSP 1160 - CLINICAL - EMT

1 Credit (5 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisite: EMSP 1501

### EMSP 1161 - CLINICAL - EMERGENCY MEDICAL SERVICES PARAMEDIC I

1 Credit (5 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical profes-



sional. Requires LSCS liability insurance. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1356, and 2348

### **EMSP 1162 - CLINICAL - EMERGENCY MEDICAL SERVICES - PARAMEDIC II**

1 Credit (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: EMSP 1161; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1355

### **EMSP 1338 - INTRODUCTION TO ADVANCED PRACTICE**

3 Credits (3 hrs. lec., 1 hr. lab.) Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics. Prerequisites: EMSP 1160 AND 1501, OR current EMT certification; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **EMSP 1355 - TRAUMA MANAGEMENT**

3 Credits (2 hrs. lec., 2 hrs. lab.) Knowledge and skills in the assessment and management of patients with traumatic injuries. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1162

### **EMSP 1356 - PATIENT ASSESSMENT AND AIRWAY MANAGEMENT**

3 Credits (2 hrs. lec., 3 hrs. lab.) Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation. Prerequisites: EMSP 1160 AND 1501, OR current EMT certification; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1161 and 2348

### **EMSP 1501 - EMERGENCY MEDICAL TECHNICIAN**

5 Credits (3 hrs. lec., 6 hrs. lab.) Preparation for certification as an Emergency Medical Technician (EMT). Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisite: EMSP 1160

### **EMSP 2143 - ASSESSMENT BASED MANAGEMENT**

1 Credit (3 hrs. lab.) A capstone experience covering comprehensive, assessment based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients. Prerequisites: EMSP 2160; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisite: EMSP 2361

### **EMSP 2160 - CLINICAL - PARAMEDIC III**

1 Credit (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 2330 and 2434

### **EMSP 2300 - METHODS OF TEACHING - EMERGENCY MEDICAL SERVICE**

3 Credits (3 hrs. lec.) Focuses on instructional preparation, presentation and evaluation, and essential knowledge, skills, and practices required to provide quality EMS educational programs applicable to the adult learner. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **EMSP 2330 - SPECIAL POPULATIONS**

3 Credits (2 hrs. lec., 2 hrs. lab.) Knowledge and skills necessary to assess and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 2160 and 2434

## DESCRIPTION OF COURSES

### EMSP 2338 - EMS OPERATIONS

3 Credits (2 hrs. lec., 2 hrs. lab.) Knowledge and skills to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### EMSP 2348 - EMERGENCY PHARMACOLOGY

3 Credits (2 hrs. lec., 3 hrs. lab.) Utilization of medications in treating emergency situations. Prerequisites: EMSP 1160, 1501, or current EMT certification; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1161 and 1356

### EMSP 2352 - EMS RESEARCH

3 Credits (3 hrs. lec.) Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### EMSP 2359 - EMS SUPERVISION MANAGEMENT

3 Credits (3 hrs. lec.) Instruction, literary review, group discussion, and case study on topics pertinent to the emergency medical service (EMS) field supervisor or manager. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### EMSP 2361 - CLINICAL - EMS

3 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: EMSP 2160; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisite: EMSP 2143

### EMSP 2434 - MEDICAL EMERGENCIES

4 Credits (3 hrs. lec., 3 hrs. lab.) Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 2160 and 2330

### EMSP 2444 - CARDIOLOGY

4 Credits (3 hrs. lec., 3 hrs. lab.) Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### ENGL 0112 - DEVELOPMENTAL WRITING REVIEW

1 credit (1 hr. lec.) This course is established to accommodate students desiring individualized remediation in developmental writing and is open to those students who have borderline college-level writing skills as measured by an academic assessment instrument recognized by LSCS (See an academic advisor for specific assessment score requirements). The course may be delivered in a traditional or hybrid format, with a significant independent study component. As a result, students must be able to thrive in a self-directed study environment. Students in ENGL 0112 must retest college-ready in writing (essay and objective writing) on an academic assessment instrument recognized by LSCS before progressing into any course requiring college-level writing skills. Students who fail to retest at the college level in writing will be required to register for ENGL 0307. This course cannot be repeated. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisites: ENGL 0305 OR placement by testing

### ENGL 0303 - BASIC COMMUNICATIONS

3 Credits (3 hrs. lec., 1 hr. lab.) A basic skills course designed to improve reading and writing ability in a variety of relevant contexts. This course focuses on phonetic and word analysis skills, vocabulary, literal comprehension, transitions, and context clues. The course includes interpretation of factual material, identification of main ideas and supporting details,

the relationship of meaning to grammatical form, and dictionary skills. Sentence writing is required to complete varied reading activities. Students successfully completing this course will be prepared for ENGL 0304 and ENGL 0306. This course will not transfer and will not be used to meet degree requirements. Prerequisite: Placement by testing

### **ENGL 0304 - DEVELOPMENTAL READING I**

3 Credits (3 hrs. lec., 1 hr. lab.) A basic reading course designed to improve reading efficiency through word analysis skills, vocabulary, comprehension and rate. Sentence/paragraph writing is required to complement extensive and varied reading activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: Placement by testing

### **ENGL 0305 - DEVELOPMENTAL READING II**

3 Credits (3 hrs. lec., 1 hr. lab.) A developmental reading course continuing the instruction and reinforcement of those skills taught in ENGL 0304. Emphasis is on learning higher level reading skills required for college reading assignments. Short paragraph writing is required to complement some reading activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: ENGL 0304 or placement by testing

### **ENGL 0306 - DEVELOPMENTAL WRITING I**

3 Credits (3 hrs. lec., 1 hr. lab.) The first of two developmental writing courses designed to improve the student's basic writing skills. Class activities and lab assignments will be used to produce clarity and precision in sentence and paragraph structure. Specific course topics include an introduction to the writing process and a review of grammar, usage and mechanics. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085312) Prerequisite: Placement by testing

### **ENGL 0307 - DEVELOPMENTAL WRITING II**

3 Credits (3 hrs. lec., 1 hr. lab.) The second course in the developmental writing course sequence designed for those students with a stronger background in grammar skills who need further help developing paragraphs and short themes. Lab work will be assigned to reinforce class activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085312) Prerequisite: ENGL 0306 or placement by testing

### **ENGL 0308 - LANGUAGE SKILLS WORKSHOP**

3 Credits (3 hrs. lec., 1 hr. lab.) This course refines the use of communication skills necessary for personal, academic, and business communication. It incorporates negotiated student/instructor-generated content and accommodates individual goals in a workshop format. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: Placement by testing

### **ENGL 0309 - ADVANCED DEVELOPMENTAL READING AND WRITING**

3 Credits (3 hrs. lec., 1 hr. lab.) This is an individualized lecture/lab based course designed to prepare students for Composition and Rhetoric I. Topics include basic reading and critical writing skills. Students will be expected to write compositions similar to those assigned in Composition and Rhetoric I. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201086212) Prerequisites: ENGL0304 AND ENGL 0306 OR placement by testing or instructor approval

### **ENGL 0310 - PRE-COMPOSITION AND RHETORIC**

3 Credits (3 hrs. lec.) This is an individualized lecture/lab based course designed to prepare students for Composition and Rhetoric I. Topics include basic reading and critical writing skills. Students will be expected to write compositions similar to those assigned in Composition and Rhetoric I. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: Placement by testing or instructor approval

### **ENGL 0361 - ESOL READING I**

3 Credits (3 hrs. lec., 1 hr. lab.) In this course beginning English-language students develop basic reading and vocabulary skills. Materials are vocabulary-controlled and based on concrete topics. Students practice reading and comprehending simple short stories and articles, writing related sentences, and developing basic library skills. Focus is on literal comprehension and developing a personally relevant vocabulary base. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085212) Prerequisite: Placement by testing

## DESCRIPTION OF COURSES

### ENGL 0362 - ESOL READING II

3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students continue to develop the reading and vocabulary skills necessary for personal, academic, and professional purposes using materials based on high interest topics. The course includes practice in reading and comprehending multi-paragraph descriptive and narrative articles, stories, reports, and dictionary entries. Focus is on literal comprehension, word analysis, vocabulary expansion, dictionary skills, and the use of library resources. Writing is required to complement varied reading activities. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612) Prerequisite: ENGL 0361 or placement by testing

### ENGL 0363 - ESOL READING III

3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to develop English-language students' reading and vocabulary skills for personal, academic and professional purposes using a wide variety of text types and topics. The course includes extensive practice in reading and comprehending multi-page articles, narratives, reports, editorials, opinion essays, and reference materials, and writing related responses. Focus is on interpretation of factual material, drawing inferences and conclusions, and paraphrasing and summarizing selected passages. Writing is required to complement reading activities. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612) Prerequisite: ENGL 0362 or placement by testing

### ENGL 0364 - ESOL READING IV

3 Credits (3 hrs. lec., 1 hr. lab.) This course is designed to improve English-language students' reading efficiency by developing and increasing their passive and active vocabulary, literal and inferential comprehension, and reading rate. Sentence/paragraph writing is required to complement extensive and varied reading activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: ENGL 0363 or placement by testing

### ENGL 0365 - ESOL READING V

3 Credits (3 hrs. lec., 1 hr. lab.) This course continues the instruction and reinforcement of English-language students' reading efficiency with a focus on higher-level skills required for college reading assignments.

Short paragraph writing is required to complement some reading activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: ENGL 0364 or placement by testing

### ENGL 0371 - ESOL WRITING I

3 Credits (3 hrs. lec., 1 hr. lab.) In this course beginning English-language students develop, practice and apply the basic structures of English to perform simple writing tasks. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712) Prerequisite: Placement by testing

### ENGL 0372 - ESOL WRITING II

3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students increase proficiency in the writing skills necessary for basic personal, academic, and professional communication. Students use process writing techniques to write simple paragraphs and gain mastery in the use of the basic structures of the language. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712) Prerequisite: ENGL 0371 or placement by testing

### ENGL 0373 - ESOL WRITING III

3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to develop English-language students' writing skills for personal, academic and professional purposes. Students use more sophisticated grammar structures in writing well-developed paragraphs using process writing techniques. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712) Prerequisite: ENGL 0372 or placement by testing

### ENGL 0374 - ESOL WRITING IV

3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students incorporate increasingly sophisticated grammar and vocabulary into longer pieces of writing using process writing techniques appropriate for personal, academic, and professional written communication. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: ENGL 0373 or placement by testing

**ENGL 0375 - ESOL WRITING V**

3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students use process writing techniques to write academic essays, selecting appropriate rhetorical modes, or a combination of modes, to defend and support a thesis or position. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085312) Prerequisite: ENGL 0374 or placement by testing

**ENGL 0381 - ESOL ORAL COMMUNICATION I**

3 Credits (3 hrs. lec., 1 hr. lab.) In this course beginning English-language students learn the key vocabulary and structures necessary for adequate basic oral communication. Students refine listening and speaking skills and increase control of the English sound system to minimize miscommunication due to pronunciation. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: Placement by testing

**ENGL 0382 - ESOL ORAL COMMUNICATION II**

3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students increase proficiency in the spoken language necessary for basic personal, academic, and professional communication. Students communicate with a growing degree of fluency, using newly acquired vocabulary with some degree of accuracy, and master basic language functions. Students acquire and practice strategies for comprehending statements and short spoken passages. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0381 or placement by testing

**ENGL 0383 - ESOL ORAL COMMUNICATION III**

3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to provide dynamic communicative practice for English-language students. Students increase their degree of fluency, accuracy, and comprehension in listening and speaking skills necessary for personal, academic, and professional communication. They develop skills at using functional language in a variety of relevant contexts. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0382 or placement by testing

**ENGL 0384 - ESOL ORAL COMMUNICATION IV**

3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students use sophisticated grammar structures and precise vocabulary in speaking and are able to comprehend short lectures or presentations on a variety of academic, business, or social topics. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201095412) Prerequisite: ENGL 0383 or placement by testing

**ENGL 1301 - COMPOSITION AND RHETORIC I**

3 Credits (3 hrs. lec.) A multi-paragraph composition course, including language study and the mechanics of writing, with examples from selected readings. Students may be required to achieve a departmentally approved score on a proficiency test before credit for the course may be awarded. (2313015112) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR placement by testing

**ENGL 1302 - COMPOSITION AND RHETORIC II**

3 Credits (3 hrs. lec.) A continuation of ENGL 1301 with an emphasis on critical papers, culminating in a term paper or papers. Readings in prose, poetry, and drama. (2313015112) Prerequisite: ENGL 1301

**ENGL 2307 - FUNDAMENTALS OF CREATIVE WRITING**

3 Credits (3 hrs. lec.) A brief study of creative genres such as poetry, essay, and short fiction. Practice in original composition. Designed as a humanities elective course for students interested in imaginative writing. Both ENGL 2307 and ENGL 2308 may apply toward graduation. (2313025112) Prerequisite: Six hours of English credit or departmental approval

**ENGL 2308 - CREATIVE WRITING AND PUBLISHING**

3 Credits (3 hrs. lec.) Practical experience in the techniques of imaginative writing and its publication. May include fiction, creative non-fiction, poetry, drama, and/or essay. Both ENGL 2307 and ENGL 2308 may apply toward graduation. (2313025112) Prerequisite: Six hours of English credit

**ENGL 2311 - TECHNICAL COMMUNICATIONS**

3 Credits (3 hrs. lec.) The writing of technical papers, reports, proposals, progress reports and descriptions. The course also briefly covers oral reporting. (2313035112) Prerequisite: ENGL 1301

## DESCRIPTION OF COURSES

### **ENGL 2322 - SURVEY OF BRITISH LITERATURE - ANGL0 SAXON TIMES TO MID-18<sup>TH</sup> CENTURY**

3 Credits (3 hrs. lec.) A survey of the literature of Great Britain from Anglo-Saxon times to mid-eighteenth century. (2314045112) Prerequisites: ENGL 1301 and 1302

### **ENGL 2323 - SURVEY OF BRITISH LITERATURE - MID-18<sup>TH</sup> CENTURY TO THE PRESENT**

3 Credits (3 hrs. lec.) A survey of literature of Great Britain from mid-eighteenth century to the present. (2314045112) Prerequisites: ENGL 1301 and 1302

### **ENGL 2327 - SURVEY OF AMERICAN LITERATURE - COLONIAL TO CIVIL WAR**

3 Credits (3 hrs. lec.) A survey of American literature from the colonial period to the Civil War. (2314025112) Prerequisites: ENGL 1301 and 1302

### **ENGL 2328 - SURVEY OF AMERICAN LITERATURE - CIVIL WAR TO THE PRESENT**

3 Credits (3 hrs. lec.) A survey of American literature from the Civil War to the present. (2314025112) Prerequisites: ENGL 1301 and 1302

### **ENGL 2332 - SURVEY OF WORLD LITERATURE - ANCIENT TIMES TO MID-17<sup>TH</sup> CENTURY**

3 Credits (3 hrs. lec.) A survey of world literature from ancient times to the mid-seventeenth century. (1601045213) Prerequisites: ENGL 1301 and 1302

### **ENGL 2333 - SURVEY OF WORLD LITERATURE - MID 17<sup>TH</sup> CENTURY TO THE PRESENT**

3 Credits (3 hrs. lec.) A survey of world literature from the mid-seventeenth century to the present. (1601045213) Prerequisites: ENGL 1301 and 1302

### **ENGL 2341 - FORMS OF LITERATURE**

3 Credits (3 hrs. lec.) The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film. Other forms might include mythic and religious writing, autobiographies and memoirs, and polemics. Readings vary. Instructors are free to choose their own emphasis. Only 6 credit hours can be taken from ENGL 2341, 2342, and 2343. (1601045113) Prerequisites: ENGL 1301 and 1302

### **ENGL 2342 - FORMS OF LITERATURE I**

3 Credits (3 hrs. lec.) One semester of a two-semester course on literary forms. This course examines a genre, or a combination of genres, in greater depth than does the one semester course, ENGL 2341. Instructors are free to choose their own emphasis. The literary genre or genres taught in this course emphasize the multicultural competencies. (1601045113) Prerequisites: ENGL 1301 and 1302

### **ENGL 2343 - FORMS OF LITERATURE II**

3 Credits (3 hrs. lec.) One semester of a two-semester course on literary forms. This course may expand treatment of a genre or genres studied in ENGL 2342 and/or may include a genre or genres not studied in ENGL 2342. Instructors are free to choose their own emphasis. The literary genre or genres taught in this course emphasize the multicultural competencies. (1601045113) Prerequisites: ENGL 1301 and 1302

### **ENGL 2351 - MEXICAN-AMERICAN LITERATURE**

3 Credits (3 hrs. lec.) A survey of Mexican-American literature from its origins to the present covering the major literary genres - the essay, epic poetry, lyric poetry, the short story, novel, drama, and folk literature. (0502035525) Prerequisites: ENGL 1301 and 1302

### **ENGL 2389 - ACADEMIC COOPERATIVE IN COMPOSITION**

3 Credits (1 hr. lec., 4 hrs. ext.) Training program and internship for peer writing tutors who work with student writers in the writing center in the college learning center. (2401035212) Prerequisite: ENGL 1301

### **ENGR 1201 - INTRODUCTION TO ENGINEERING**

2 Credits (2 hrs. lec.) An introduction to the field of engineering. Students will learn about engineering careers, teamwork, engineering design, success in college, the teaching and learning process, and professional development. The class will also serve to prepare students for more advanced engineering coursework. (1401015110) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ENGR 1304 - FOUNDATIONS OF ENGINEERING I**

3 Credits (2 hrs. lec., 4 hrs. lab.) Introduction to the engineering profession, ethics and disciplines; development of skills in teamwork; problem solving, logic

processing, design and drawing; emphasis on computer applications and CAD tools. (1513015111) Prerequisite: MATH 2412; Corequisite: ENGL 1301

### **ENGR 1305 - FOUNDATIONS OF ENGINEERING II**

3 Credits (2 hrs. lec., 4 hrs. lab.) Development of skills in problem solving, design, analysis, estimation, and teamwork; utilization of computer tools for documentation and presentation; introduction to logic processing and computer programming; introduction to accounting and conservation principles in engineering sciences. (1513015212) Prerequisites: ENGR 1304 and MATH 2413

### **ENGR 2301 - ENGINEERING MECHANICS I**

3 Credits (3 hrs. lec.) Statics of particles and rigid bodies, free body diagrams, centroids, center of gravity and distributed loads, structural analysis of trusses and frames, internal forces and moments in beams and cables, friction, moments of inertia. (1411015210) Prerequisites: PHYS 2425 and MATH 2414

### **ENTC 1343 - STATICS**

3 Credits (2 hrs. lec., 4 hrs. lab.) Explanation of forces acting on structures to create equilibrium. Includes the concepts of friction, moments, couples, centroids, and moment of inertia. Prerequisite: MATH 1316

### **ENTC 1423 - STRENGTH OF MATERIALS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduces the relationship between externally applied forces and internally induced stresses and the resulting deformations in structural members. Prerequisite: ENTC 1343

### **ENTC 2380 - COOPERATIVE EDUCATION - ENGINEERING TECHNOLOGY/TECHNICIAN, GEN.**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Completion of all engineering design graphics technology associate degree technical course requirements and department approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **ENVR 1401 - ENVIRONMENTAL SCIENCE I**

4 Credits (3 hrs. lec., 3 hrs. lab.) Interdisciplinary study of both natural (biology, chemistry, geology) and social (economics, politics, ethics) sciences as they apply to the environment. Focus is on the role of science in addressing global environmental concerns. Concepts include ethics, policy, matter, energy, species biodiversity, ecology, human populations, food and agriculture. Practical laboratory experience emphasizes the application of fundamental principles of biology and chemistry as well as critical thinking and analysis. Lab required. (0301035201) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **ENVR 1402 - ENVIRONMENTAL SCIENCE II**

4 Credits (3 hrs. lec., 3 hrs. lab.) Continued interdisciplinary study of both natural (biology, chemistry, geology) and social (economics, politics, ethics) sciences as they apply to the environment. Focus on energy issues, global warming, ozone loss, land use, conservation and management of resources, deforestation, biodiversity, waste, and sustainable practices. Lab required. (0301035201) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **FCEL 1302 - INTRODUCTION TO FUEL CELL TECHNOLOGY**

3 Credits (2 hrs. lec., 2 hrs. lab.) Types of fuel cells and other alternative energy fields. Includes professional requirements of fuel cell technicians. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **FCEL 2330 - FUEL CELL INSTALLATION, START-UP, AND MAINTENANCE**

3 Credits (2 hrs. lec., 2 hrs. lab.) Fuel cell system pre-start check, functional test, customer acceptance test, start-up procedures, and shut-down procedures. Prerequisites: FCEL 1302 with a grade of "C" or better; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **FIRS 1301 - FIREFIGHTER CERTIFICATION I**

3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas

## DESCRIPTION OF COURSES

Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: Admission to the fire science technology program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 1313 - FIREFIGHTER CERTIFICATION III**

3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 1319 - FIREFIGHTER CERTIFICATION IV**

3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 1329 - FIREFIGHTER CERTIFICATION VI**

3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 1407 - FIREFIGHTER CERTIFICATION II**

4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 1423 - FIREFIGHTER CERTIFICATION V**

4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 1433 - FIREFIGHTER CERTIFICATION VII**

4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRS 2344 - DRIVER/OPERATOR-PUMPER**

3 Credits (2 hrs. lec., 3 hrs. lab.) Meets curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Driver/Operator-Pumper. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FIRT 1171 - FIREFIGHTER AGILITY AND FITNESS PREPARATION**

1 Credit (3 hrs. lab.) This course includes the study of physical agility testing methods and rigorously trains individuals in skills and techniques needed in typical entry level testing. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisites: FIRS 1301, FIRS 1407, FIRS 1313 and FIRS 1319

### **FIRT 1303 - FIRE ARSON INVESTIGATION I**

3 Credits (3 hrs. lec.) In-depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing



**FIRT 1305 - PUBLIC EDUCATION PROGRAMS**

3 Credits (3 hrs. lec.) Preparation of firefighters and fire officers to develop public fire safety awareness. Emphasis on implementation of fire and public safety programs in an effort to reduce the loss of life. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**FIRT 1307 - FIRE PREVENTION CODES**

3 Credits (3 hrs. lec.) Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**FIRT 1315 - HAZARDOUS MATERIALS I**

3 Credits (3 hrs. lec.) Study of the chemical characteristics and behavior of various materials. Topics include storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation. Student will be able to do the following after this course: recognize the presence of the hazardous materials/weapons of mass destruction (WMD), protect themselves, call for trained personnel and secure the scene. Meets curriculum requirements of the Texas Commission on Fire Protection for Hazardous Materials Awareness Level. Prerequisites: Completion of TCFP Basic Firefighter Certificate; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**FIRT 1319 - FIRE FIGHTER HEALTH AND SAFETY**

3 Credits (3 hrs. lec.) Study of firefighter occupational safety and health in emergency and non-emergency situations. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**FIRT 1327 - BUILDING CONSTRUCTION IN THE FIRE SERVICE**

3 Credits (3 hrs. lec.) Components of building construction that relate to fire and life safety. Focuses on firefighter safety. Includes relationship of elements of construction and design of structures to inspecting buildings, preplanning fire operations, and operating at emergencies. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**FIRT 1338 - FIRE PROTECTION SYSTEMS**

3 Credits (3 hrs. lec.) Design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**FIRT 1342 - FIRE OFFICER I**

3 Credits (3 hrs. lec.) Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer I certification. Prerequisite: FIRT 2305

**FIRT 1343 - FIRE OFFICER II**

3 Credits (3 hrs. lec.) Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer II certification. Prerequisite: ENGL 0305 and FIRT 1342

**FIRT 1345 - HAZARDOUS MATERIALS II**

3 Credits (3 hrs. lec.) In-depth study of mitigation practices and techniques to effectively control hazardous material spills and leaks. Study and prepare those who respond to hazardous materials/weapons of mass destruction (WMD) incidents for the purpose of implementing or supporting actions to protect nearby persons, the environment, or property from the effects of the release. Response options for operations level responders are generally limited to nonintervention or defensive actions. Meets curriculum requirements of the Texas Commission on Fire Protection for Hazardous Materials Operations Level. Prerequisites: Completion of TCFP Basic Firefighter certificate; FIRT 1315

**FIRT 2171 - FIREFIGHTER AGILITY AND FITNESS PREPARATION II**

1 Credit (3 hrs. lab.) Firefighter Agility and Fitness Preparation II is a continuation of Firefighter Agility and Fitness Preparation I and includes circuit training, sports conditioning, body toning, interval training, and the study of physical agility testing methods. It rigorously trains individuals in skills and techniques needed in typical entry level testing. Prerequisites: FIRT 1171; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

## DESCRIPTION OF COURSES

### FIRT 2305 - FIRE INSTRUCTOR I

3 Credits (3 hrs. lec.) Preparation of fire and emergency services personnel to deliver instruction from a prepared lesson plan. Includes the use of instructional aids and evaluation instruments to meet the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Instructor I certification. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### FIRT 2307 - FIRE INSTRUCTOR II

3 Credits (3 hrs. lec.) Preparation of fire and emergency services personnel to deliver instruction from a prepared lesson plan. Includes the use of instructional aids and evaluation instruments to meet the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Instructor I certification. Prerequisite: FIRT 2305

### FIRT 2309 - FIREFIGHTING STRATEGIES AND TACTICS I

3 Credits (3 hrs. lec.) Analysis of the nature of fire problems and selection of initial strategies and tactics including an in-depth study of efficient and effective use of staffing and equipment to mitigate the emergency. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### FIRT 2333 - FIRE ARSON INVESTIGATION II

3 Credits (3 hrs. lec.) Continuation of Fire and Arson Investigation I. Topics include reports, court room demeanor, and expert witnesses. Prerequisite: FIRT 1303

### FIRT 2345 - HAZARDOUS MATERIALS III

3 Credits (2 hrs. lec., 3 hrs. lab.) Mitigation, preparedness, response, and recovery to hazardous materials incidents. Hazardous Materials Technician Level Personnel are those who respond to hazardous materials/weapons of mass destruction (WMD) incidents and use a risk based response process to analyze a problem involving hazardous materials/weapons of mass destruction (WMD), select and implement applicable decontamination procedures, control a release, use specialized protective clothing, and use specialized control equipment. Meets curriculum requirements of the Texas Commission on Fire Protection for Hazardous Materials Technician Level. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Completion of TCFP Basic Firefighter certificate; FIRT 1315 and FIRT 1345

### FIRT 2380 - COOPERATIVE EDUCATION

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### FLMC 1304 - LIGHTING FOR FILM OR VIDEO

3 Credits (2 hrs. lec., 4 hrs. lab.) Fundamentals of lighting techniques for film or video production employing filters, in-camera effects, and mood setting techniques. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### FLMC 1331 - VIDEO GRAPHICS AND VISUAL EFFECTS I

3 Credits (2 hrs. lec., 4 hrs. lab.) A course in the applications of computers for video production. Design of computer graphic workstations and development of a rationale for selecting software, hardware, and peripherals. Prerequisites: ARTC 1302 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### FLMC 2331 - VIDEO GRAPHICS AND VISUAL EFFECTS II

3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced concepts of designing vector and raster graphics, executing rendering techniques, designing and producing three-dimensional (3-D) materials, and selecting hardware, software, and peripherals for video production. Prerequisites: FLMC 1331; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### FREN 1300 - FRENCH CONVERSATION I

3 Credits (3 hrs. lec.) This is a conversational French course for beginners. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop basic communication skills for the student to apply these skills to everyday life and work situations. It is an alternate track for the student who needs immediate

communicative experience in French. (1609015413)  
Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FREN 1310 - FRENCH CONVERSATION II**

3 Credits (3 hrs. lec.) This is a continuation of Conversational French I. It includes extensive comprehension, oral practice, use of multimedia materials. It is intended to develop communications skills for the student to apply these skills to everyday life and work situations. It is an alternate track for the student who needs immediate communicative experience in French. (1609015413)  
Prerequisites: FREN 1300; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FREN 1411 - BEGINNING FRENCH I**

4 Credits (3 hrs. lec., 2 hrs. lab.) Beginner's pronunciation, oral practice and dictation, conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1609015113)  
Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FREN 1412 - BEGINNING FRENCH II**

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of FREN 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. (1609015113) Prerequisites: FREN 1411 OR placement by exam; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FREN 2311 - INTERMEDIATE FRENCH I**

3 Credits (3 hrs. lec.) French readings, grammar, and composition based partly on the formal text and partly on selected readings. Stress will be placed on oral work. (1609015213) Prerequisites: FREN 1412; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **FREN 2312 - INTERMEDIATE FRENCH II**

3 Credits (3 hrs. lec.) Continuation of FREN 2311. (1609015213) Prerequisites: FREN 2311; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GAME 1303 - INTRO TO GAME DESIGN AND DEVELOPMENT**

3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to electronic game development and game development careers. Includes examination of history and philosophy of games, the game production process, employee factors for success in the field, and current issues and practices in the game development industry. Prerequisite: None

### **GAME 1304 - LEVEL DESIGN**

3 Credits (2 hrs. lec., 4 hrs. lab.) Introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles. Prerequisites: Department approval; Successful completion of 9 hours in specialization

### **GAME 1334 - VIDEO GAME ART I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Explores the role of the artist in the gaming industry. Introduces tools and techniques used in the creation of assets for a game engine. Covers art pipeline, team integration and communication. Prerequisites: ARTV 1345, ARTC 1302, ARTC 1317

### **GAME 1335 - INTERACTIVE WRITING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Instruction in writing plot, story, setting, and description for every game element and verbal communication based on game concept. Includes the study of traditional narrative practices and interactive fiction requiring creative writing. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GAME 1343 - GAME AND SIMULATION PROGRAMMING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Game and simulation programming using the C++ language. Topics will include advanced pointer manipulation techniques and pointer applications, points and vectors, sound, and graphics. Prerequisite: ITSE 1407 or COSC 1420; Corequisite: ITSE 2431

## DESCRIPTION OF COURSES

### **GAME 1359 - GAME AND SIMULATION PROGRAMMING II**

3 Credits (2 hrs. lec., 3 hrs. lab.) Design and development of game and simulation programs including user interface design, mathematical elements, image and file structure, and software development techniques. Prerequisite: GAME 1343

### **GAME 2303 - ARTIFICIAL INTELLIGENCE PROGRAMMING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Basic techniques in artificial intelligence related to game and simulation programming. Includes knowledge representation and inference techniques, expert systems, pathfinding algorithms, and search techniques for problem solving. Prerequisite: GAME 1343

### **GAME 2332 - PROJECT DEVELOPMENT I**

3 Credits (2 hrs. lec., 4 hrs. lab.) Skill development in an original modification based on a current game engine. Includes management of version control; development of project timelines; integration of sound, models, and animation; production of demos; and creation of original levels, characters, and content for a real-time multiplayer game. Prerequisites: Department approval; Successful completion of 12 hours in specialization

### **GAME 2334 - PROJECT DEVELOPMENT II**

3 Credits (2 hrs. lec., 4 hrs. lab.) Continuation of an original modification based on a current game engine with an emphasis on new content and significant changes in game play over the base game experience. Includes creation of original levels, characters, and content for a real-time multiplayer game applying skills learned in previous classes. Prerequisites: Department approval; Successful completion of 18 hours in specialization

### **GAME 2338 - GAME TESTING**

3 Credits (2 hrs. lec., 3 hrs. lab.) Testing and debugging gaming and simulation applications in the alpha and beta stages of production. Includes critiques of the product and written documentation of the testing and debugging processes. Prerequisite: GAME 1304

### **GAME 2341 - GAME SCRIPTING**

3 Credits (2 hrs. lec., 3 hrs. lab.) Scripting languages with emphasis on game concepts and simulations. Prerequisites: MATH 1314; ITSE 1407 or COSC 1420

### **GAME 2342 - GAME DEVELOPMENT USING C++**

3 Credits (2 hrs. lec., 3 hrs. lab.) Skill development in C++ programming for games and simulations. Examines real-world C++ development issues. Prerequisites: GAME 2419 and ITSE 2431

### **GAME 2386 - INTERNSHIP**

3 Credits (15 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Department approval

### **GAME 2419 - GAME ENGINE**

4 Credits (2 hrs. lec., 4 hrs. lab.) Commercial and open source gaming engines. Includes discussions and recommendations for game engines to fit industry specifications. Prerequisites: MATH 1314; ITSC 1407 or COSC 1420

### **GEOG 1300 - PRINCIPLES OF GEOGRAPHY**

3 Credits (3 hrs. lec.) A survey of the processes of both physical and human geography. This course discusses what geography is, what geographers do, how geography facilitates thinking about, and observing the earth and the human landscape in spatial terms. The course introduces: cartographic interpretation; identification of landforms; climatic types; the interaction of humans with the physical world; the spatial distribution of cultural activity. (4507015125) Prerequisites: College level reading; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GEOG 1301 - PHYSICAL GEOGRAPHY**

3 Credits (3 hrs. lec.) A survey of the primary elements and the processes at work in the physical environment - weather, climate, landforms and ecosystems and their interrelationships as they influence human activities on the earth's surface. (45070151 25) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GEOG 1303 - WORLD GEOGRAPHY**

3 Credits (3 hrs. lec.) A survey of human activity within the context of its regional settings. The course considers ideas such as economic development and the cultural, physi-

cal, and political dynamics at work within each region. The course guides the student into thinking about human phenomenon from a spatial perspective. It emphasizes the understanding of place, region, and spatial connection. For students interested in world affairs, culture, international relations, and understanding the characteristics of places around the world. (4507015325) Prerequisites: College level reading; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GEOG 2312 - ECONOMIC GEOGRAPHY**

3 Credits (3 hrs. lec.) A survey of patterns of economic development, including the distribution of population and resources, and the influence these factors have on agriculture, manufacturing and service industries. Emphasis is placed on spatial variations in types of economic organization and patterns of land use and resource utilization. (4507015225) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GEOLOG 1403 - PHYSICAL GEOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course explores the theory of geologic processes including a study of physical forces that shape the earth and all its landforms. Special emphasis is given to the origins of minerals and rocks, volcanoes, earthquakes, structures, plate tectonics and other geologic processes. Lab exercises include mineral identification and differentiation of the major rock types, use of topographic maps and aerial photographs and interpretation of geologic data. Optional field trips help students explore and discover links between classroom discussions and life experiences. Participation in field trips is highly recommended. (4006015403) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **GEOLOG 1404 - HISTORICAL GEOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) A geological history of the earth stressing fossils, stratigraphy and plate tectonics. Emphasis is placed on environments and the succession of geologic events since the origin of the earth. Labs review rocks and maps, with exercises in fossil identification, stratigraphic correlation and cross cutting relationships. Participation in field trips is highly recommended. (4006015403) Prerequisites: GEOLOG 1403 OR GEOLOG 1405 OR department approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **GEOLOG 1405 - ENVIRONMENTAL GEOLOGY**

4 Credits (3 hrs. lec., 3 hrs. lab.) An analysis survey of geologic processes, their influence on people and the influence of human activities on the environment. Topics include natural resources, geologic hazards, waste disposal, surface and groundwater pollution, air pollution, land-use planning, environmental law, and the determination of risk assessments based on remote sensing techniques, field observations and their economic impact. Lab exercises include groundwater flow, environmental pollution, geologic hazards, geologic resources and land use planning. Participation in field trips is highly recommended. (0301035301) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **GEOLOG 1445 - OCEANOGRAPHY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course explores topics in physical oceanography with an emphasis on the global understanding of the interaction of oceans with the earth's hydrosphere, atmosphere, and biosphere. Laboratory exercises utilize real-time oceanographic data, and explore the current understanding of ocean floor topography, sea water chemistry, and the role the ocean-atmosphere system plays in controlling weather and climate. Students will be introduced to remote sensing technologies, modern research methods, and they will interpret marine data in both two and three dimensions. Internet based research activities help students explore and discover links between classroom discussions and life experiences. (4006015103) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **GEOLOG 2307 - GEOLOGY OF TEXAS**

3 Credits (3 hrs. lec.) The topography, physiography, structure, geologic history and mineral deposits of Texas. Plate tectonics regional correlations and local phenomena are emphasized. Participation in field trips is highly recommended. (4006015503) Prerequisites: GEOLOG 1404 or department approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

### **GERM 1411 - BEGINNING GERMAN I**

4 Credits (3 hrs. lec., 2 hrs. lab.) Beginner's pronunciation, oral practice and dictation. Conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy

**DESCRIPTION OF COURSES**

reading that includes cultural material. (1605015113)  
Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**GERM 1412 - BEGINNING GERMAN II**

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of GERM 1411 with increased emphasis on comprehension, speaking, reading, and writing. Intensive drills to increase vocabulary and knowledge of structure. (1605015113) Prerequisites: GERM 1411 OR placement by testing; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**GERM 2311 - INTERMEDIATE GERMAN I**

3 Credits (3 hrs. lec.) Introduction to German readings of average difficulty, principally through short stories and selections from longer works. Review of grammar composition, practice in conversation. Some scientific selections included in class readings, collateral readings and reports. (1605015213) Prerequisites: GERM 1412; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**GERM 2312 - INTERMEDIATE GERMAN II**

3 Credits (3 hrs. lec.) Continuation of GERM 2311. (1605015213) Prerequisites: GERM 2311; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**GERS 1301 - GERONTOLOGY**

3 Credits (3 hrs. lec.) Overview of the social, psychological, and biological changes that accompany aging and an overview of the implications of these changes for the individual, as well as for the larger society. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**GISC 1302 - UNDERSTANDING GEOGRAPHIC INFORMATION SYSTEMS**

3 Credits (2 hrs. lec., 2 hrs. lab.) Theory and application of geographic information science (GIS). Includes an overview of the general principles of GIS and practical experience in its use. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0308

**GISC 1401 - CARTOGRAPHY AND GEOGRAPHY IN GEOGRAPHICAL INFORMATION SYSTEMS (GIS) AND GLOBAL POSITIONING SYSTEMS (GPS)**

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to the principles of cartography and geography. Emphasis on global reference systems, and the use of satellites for navigation and measurements. Students learn basic concepts of GIS including mapping the earth in spatial terms, and populating the GIS to access data. Exercises include: create and access data in the GIS using Arc View, a standard PC platform software package; capture positional and attribute information with correct and accurate geographic referencing including GPS systems; and develop and print maps and reports. Emphasis on geographic coordinate systems, acquiring GIS information from databases, existing maps, GPS and the Internet. All aspects of the course will be integrated into individual final projects. Prerequisites: GISC 1411 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**GISC 1411 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)**

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography. Emphasis on the principles of cartography, standard global reference systems and the new technologies, using satellites for measurements and navigation, and map construction. Exercises include basic concepts of acquisition, accuracy, precision, and scale in GPS - global positioning systems, and the operating environment for GIS/GPS; creation of spatial data with real time GPS fieldwork; importing of GPS data into GIS; and evaluation of data for scale and accuracy. Students will measure and relate "real world" distance and area on maps. Final projects will include applications of these topics. This is the initial course for the GIS certificate and degree programs. Prerequisite: None

**GISC 1421 - INTRODUCTION TO RASTER-BASED GEOGRAPHIC INFORMATION SYSTEMS (GIS)**

4 Credits (3 hrs. lec., 3 hrs. lab.) Instruction in GIS data sets including raster-based information such as images or photographs, acquisition of such data, and processing and merging with vector data. Introduction to grid or continuous GIS data sets including DEMs, TINs, aerial and satellite imagery, and others; as well as processing and merging with vector data. Students collect, process,

and summarize images to produce a thematic map; explain geo-referencing of photos or images to maps; effectively operate image processing software including Spatial Analyst and ENVI Image Processing/Analysis package; interpret photos and images to produce map data; analyze geographic information and merge with photographic information in raster formats. Prerequisites: GISC 1411; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GISC 1491 - SPECIAL TOPICS IN CARTOGRAPHY**

4 Credits (3 hrs. lec., 3 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Learning outcomes/objectives are determined by local occupational need and business and industry trends. Students will complete a project based on a defined problem, independent research and integration of existing databases, analysis and a final report defining the conclusions derived from the project. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GISC 2380 - COOPERATIVE EDUCATION - CARTOGRAPHY**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Students will demonstrate their understanding of theory and concepts, utilizing facilities and procedures effectively, to complete individual and team projects with appropriate written and verbal communication reflecting competency with in their business/industry. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GISC 2381 - COOPERATIVE EDUCATION - CARTOGRAPHY**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the super-

vision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Students will demonstrate their understanding of theory and concepts, utilizing facilities and procedures effectively, to complete individual and team projects with appropriate written and verbal communication reflecting competency with in their business/industry. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GISC 2401 - DATA ACQUISITION AND ANALYSIS IN GIS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Study of the management of geographic information, system life cycles, and costs and benefits. Topics include demographic management and institutional issues such as data providers, data management, combination of attribute and graphical data, information storage and access, Texas and national standards for spatial data; and applications of GIS for demographic modeling and analysis. Emphasis is placed on the purpose and analysis of metadata sets for a project; outline of national and international census data infrastructure; selection and evaluation of data for source, quality, and collection. Student will formulate geographic-based databases queries; establish an audit trail; use geographic information in decision-making; design a data acquisition project and utilize datum, coordinate systems and mapping projections. Prerequisites: GISC 1401, ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: Recommended ENGL 2311

### **GISC 2411 - GEOGRAPHIC INFORMATION SYSTEMS (GIS) APPLICATIONS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Application of GIS technology to real workplace applications from public and private sectors. Completion of global positioning systems (GPS) fieldwork required for lab exercises. Students will relate the use of GIS for infrastructure management; recognizing accuracy and precision in different workplace applications. The student will create real world projects of geographic information; reduce digital field data to produce final plans and technical reports which will accompany the presentation on both hard copy and PowerPoint. Prerequisites: GISC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing. Recommended: ENGL 2311.

## DESCRIPTION OF COURSES

### **GISC 2464 - PRACTICUM OR FIELD EXPERIENCE - CARTOGRAPHY**

4 Credits (40 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. As outlined in the learning plan, the student will apply the theory, concepts, and skills involving specialized materials, equipment, procedures, regulations, and interactions within and among environmental, social, and governmental occupations and will demonstrate responsible behavior, safety practices, interpersonal and teamwork skills, and effective communication skills to create success. Prerequisite: ENGL 2311; Corequisite: GISC 2411

### **GOVT 2301 - AMERICAN GOVERNMENT: NATIONAL, STATE AND LOCAL I**

3 Credits (3 hrs. lec.) A survey of national, state, and local government, including such topics as the U.S. and Texas Constitutions; democratic theory; federalism; political culture, political socialization, and public opinion; political participation and electoral behavior; political parties and interest groups; press; and local government. These phenomena are examined at the national, state, and local levels with an emphasis placed on linkages with the formulation of public policy. This course satisfies state requirements for teacher certification in Texas. (4510025125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GOVT 2302 - AMERICAN GOVERNMENT: NATIONAL, STATE AND LOCAL II**

3 Credits (3 hrs. lec.) An examination of the institutional elements of the American political system: legislature, executive, judiciary, and bureaucracy. These elements are examined at the national, state, and local levels with a special emphasis on their roles in the development of public policy. (4510025125) Prerequisite: GOVT 2301

### **GOVT 2304 - INTRODUCTION TO POLITICAL SCIENCE**

3 Credits (3 hrs. lec.) An introductory survey of the field of political science. Emphasis will be placed on the scope of the discipline; methods of inquiry and analysis appropriate for the study of political behavior; and recurring themes and problems in the study of political theory. This course may not be substituted for GOVT 2301 or 2302. (4510015225) Prerequisites: GOVT 2301 or

2302 or departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GOVT 2305 - FEDERAL GOVERNMENT**

3 Credits (3 hrs. lec.) Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights. (4510025125) Prerequisite: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GOVT 2306 - TEXAS GOVERNMENT**

3 Credits (3 hrs. lec.) Origin and development of the Texas constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas. (4510025125) Prerequisite: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GOVT 2311 - MEXICAN-AMERICAN POLITICS**

3 Credits (3 hrs. lec.) The study of Mexican-American/Chicano/a politics within the American political experience. (0502035425) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GOVT 2389 - ACADEMIC INTERNSHIP**

3 Credits (1 hr. lec., 6 hrs. lab.) A course designated to integrate on-campus classroom study with practical hands-on work experience in the student's major field of study. The student, the student's supervisor, and a faculty coordinator will establish specific goals for the student to accomplish. The course during the semester also requires an average of one hour per week of practical life/work skills. (4501015125) Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **GRPH 1305 - INTRODUCTION TO GRAPHIC ARTS AND PRINTING**

3 Credits (3 hrs. lec.) Graphic arts industry, including the history of printing, techniques involved in the production and distribution of printed materials, the kinds of printing industries and printing terminology



and identify career opportunities in graphics and printing fields. Prerequisite: ARTC 2348

### **HAMG 1321 - INTRODUCTION TO HOSPITALITY INDUSTRY**

3 Credits (3 hrs. lec.) Introduction to the elements of the hospitality industry. Topics include growth, development and organization of the lodging industry; growth, development, organization, and management of food service operations; human resources, marketing, security, information technology and career opportunities within the various fields of hospitality services. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HAMG 1340 - HOSPITALITY LEGAL ISSUES**

3 Credits (3 hrs. lec.) A course in legal and regulatory requirements that impact the hospitality industry. Topics include Occupational Safety and Health Administration (OSHA), labor regulations, tax laws, tip reporting, franchise regulations, and product liability laws. Prerequisites: HAMG 1321; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HAMG 1342 - GUEST ROOM MANAGEMENT**

3 Credits (3 hrs. lec.) A study of the working relationship among housekeeping, front office, and maintenance in the lodging industry. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: HAMG 1321

### **HAMG 1380 - COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in hospitality management AAS degree program; completion of 15 credits in degree plan; departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HAMG 2301 - PRINCIPLES OF FOOD AND BEVERAGE OPERATIONS**

3 Credits (3 hrs. lec.) An introduction to food and beverage management in various hospitality environments. Emphasizes cost controls from procurement to marketing and sales. Examines forecasting, menu planning and pricing, logistical support, production, purchasing, and quality assurance. Prerequisite: HAMG 1321

### **HAMG 2305 - HOSPITALITY MANAGEMENT AND LEADERSHIP**

3 Credits (3 hrs. lec.) An overview of management and leadership in the hospitality industry with an emphasis on management philosophy, policy formulation, communications, motivation and team building. Prerequisites: HAMG 1321; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HAMG 2330 - CONVENTION AND GROUP MANAGEMENT**

3 Credits (3 hrs. lec.) An application of the essential components of successful convention and meeting planning. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: HAMG 1321

### **HAMG 2337 - HOSPITALITY FACILITIES MANAGEMENT**

3 Credits (3 hrs. lec.) Identification of building systems, facilities and sustainability management, and security and safety procedures. Prerequisites: HAMG 1321; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HART 1401 - BASIC ELECTRICITY FOR HVAC**

4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. Prerequisite: None

### **HART 1403 - AIR CONDITIONING CONTROL PRINCIPLES**

4 Credits (3 hrs. lec., 3 hrs. lab.) A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of

## DESCRIPTION OF COURSES

Ohm's law as applied to air conditioning controls and circuits. Prerequisite: Departmental approval

### **HART 1407 - REFRIGERATION PRINCIPLES**

4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerator handling, and refrigeration components and safety. Prerequisite: None

### **HART 1441 - RESIDENTIAL AIR CONDITIONING**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems with gas and electric heat systems of split and package units. Prerequisites: HART 1401 and HART 1407

### **HART 1445 - GAS AND ELECTRIC HEATING**

4 Credits (3 hrs. lec., 3 hrs. lab.) Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems. Prerequisite: Departmental approval

### **HART 1491 - SPECIAL TOPICS IN HEATING, AIR CONDITIONING, AND REFRIGERATION TECHNOLOGIES/TECHNICIAN**

4 Credits (2 hr. lec., 4 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Course also provides a review for the state HVAC certification examination. Prerequisites: 30 hours of training in HVAC&R technology program and departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HART 2380 - COOPERATIVE EDUCATION - HEATING, AIR CONDITIONING & REFRIGERATION**

3 Credits (1 hr. lab., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes lecture component. Prerequisites: Enrollment in HVAC&R certificate or degree program/completion of 20 hrs. in certificate or degree plan; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **HART 2431- ADVANCED ELECTRICITY**

4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices. Prerequisites: HART 1401 and 1407

### **HART 2434 - ADVANCED A/C CONTROLS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Theory and application of electrical control devices, electromechanical controls, and/or pneumatic controls. Prerequisites: HART 1401 and HART 1407

### **HART 2441 - COMMERCIAL AIR CONDITIONING**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less. Prerequisites: HART 1401 and 1407

### **HART 2442 - COMMERCIAL REFRIGERATION**

4 Credits (3 hrs. lec., 3 hrs. lab.) Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines. Prerequisites: HART 1401 and HART 1407

### **HART 2443 - INDUSTRIAL AIR CONDITIONING**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of components, accessories, applications, and installation of air conditioning systems above 25 tons capacity. Prerequisites: HART 1401 and HART 1407; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HART 2445 - RESIDENTIAL AIR CONDITIONING SYSTEMS DESIGN**

4 Credits (3 hrs. lec., 3 hrs. lab.) Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system. Prerequisites: HART 1401 and 1407

**HART 2449 - HEAT PUMPS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems. Prerequisites: HART 1401 and 1407

**HART 2457 - SPECIALIZED COMMERCIAL REFRIGERATION**

4 Credits (3 hrs. lec., 3 hrs. lab.) An advanced course covering the components, accessories, and service of specialized refrigeration units, such as ice machines, soft serve machines, cryogenics, and cascade systems. Prerequisites: HART 1401 and 1407

**HIST 1301 - UNITED STATES HISTORY TO 1877**

3 Credits (3 hrs. lec.) A survey of U.S. history from Pre-Contact Societies through Reconstruction. Themes to be developed include westward expansion and globalization, slavery, Native Americans, and religious and social changes. An additional purpose of this course is to introduce students to the skills and practices of history. (5401025125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 1302 - UNITED STATES HISTORY SINCE 1877**

3 Credits (3 hrs. lec.) A survey of U.S. history from 1877 to the present. Topics will include western expansion, industrialization, immigration, imperialism, economic, political and social developments, the wars of the 20th century and the changing status and conditions of women and minorities. Another purpose of this course is to introduce students to the skills and practices of history. (5401025125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 2301 - TEXAS HISTORY**

3 Credits (3 hrs. lec.) Survey of Texas history from the Spanish exploration to the present. (5401025225) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 2311 - WESTERN CIVILIZATION TO 1648**

3 Credits (3 hrs. lec.) A history of Western civilization from the beginning of recorded history through the Renaissance and Reformation. The purpose of this course is to provide students with an interpretive analysis of

the social, economic, political and intellectual dynamics that have shaped Western history since antiquity. (5401015425) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 2312 - WESTERN CIVILIZATION FROM 1648**

3 Credits (3 hrs. lec.) A history of Western civilization from the age of exploration and the creation of the European nation-states through the Cold War of the twentieth century. Its purpose is to provide students with an interpretive analysis of the social, economic, political and intellectual dynamics that have shaped Western and world history since the religious wars of the Protestant Reformation. (5401015425) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 2321 - WORLD HISTORY TO 1492**

3 Credits (3 hrs. lec.) The history of human societies from the earliest evidences of ancient peoples until the voyages of Columbus from Europe to America. Consideration is given to all major cultural regions (Western Europe, Eastern Europe, the Middle East, South Asia/India, East Asia, Africa and Latin America). Emphasis is placed upon comparative aspects of history, and upon interactions among the major cultural regions. (5401015325) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 2322 - WORLD HISTORY FROM 1492**

3 Credits (3 hrs. lec.) The history of human societies since the voyages of Columbus from Europe to America. Consideration is given to all major cultural regions (Western Europe, Eastern Europe, the Middle East, South Asia/India, East Asia, Africa and Latin America). Emphasis is placed upon comparative aspects of history, and upon interactions among the major cultural regions. (5401015325) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HIST 2327 - MEXICAN-AMERICAN HISTORY I**

3 Credits (3 hrs. lec.) This course will explore the history of the origins of Mexican and Mexican-American people until 1910, including issues relating to identity and community. (0502035225) Prerequisite: ENGL 1301

## DESCRIPTION OF COURSES

### HIST 2328 - MEXICAN-AMERICAN HISTORY II

3 Credits (3 hrs. lec.) This course will explore the history and effects of Mexican and Mexican-American people since 1910, including issues relating to identity and community. (0502035225) Prerequisite: ENGL 1301

### HIST 2351 - ADVANCED HISTORICAL ANALYSIS

3 Credits (3 hrs. lec.) A treatment of specialized historical topics, such as the American Civil War, the Vietnam War, World War II, Women, African Americans, etc. Selected topics will vary from semester to semester as various instructors have an opportunity to bring their diverse specialties to the course. It may be repeated for credit as topics vary. This is an elective course and will not satisfy degree requirements in history. (5401015625) Prerequisites: Six credits in history or instructor approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### HITT 1166 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN

1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### HITT 1211 - HEALTH INFORMATION SYSTEMS

2 Credits (1 hr. lec., 2 hrs. lab.) Introduction to health IT standards, health-related data structures, software applications and enterprise architecture in health care and public health. Prerequisites: HITT 1401 and COSC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### HITT 1213 - INSURANCE CODING

2 Credits (1 hr. lec., 2 hrs. lab.) An overview of skills and knowledge in ICD and CPT coding of insurance forms for reimbursement of medical services. Prerequisites: COSC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### HITT 1266 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN

2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. An intermediate or advanced type of health professions work-based instruction that helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience for which the student has already acquired the necessary theoretical knowledge and basic skills. Direct supervision is provided by the clinical professional, generally a clinical preceptor. A health practicum may be a paid or unpaid learning experience. Requires LSCS liability insurance. Prerequisite: Completion of all other courses in the certificate

### HITT 1280 - COOPERATIVE EDUCATION

2 Credits (1 hr. lec., 10 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Requires LSCS liability insurance. Prerequisite: HITT 2340

### HITT 1305 - MEDICAL TERMINOLOGY I

3 Credits (3 hrs. lec., 1 hr. lab.) Study of medical terms through word origin and structure. Introduction to abbreviations and symbols, surgical and diagnostic procedures, and medical specialties. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### HITT 1342 - AMBULATORY CODING

3 Credits (2 hrs. lec., 2 hrs. lab.) Fundamentals of ambulatory coding rules, conventions, and guidelines. Prerequisites: BIOL 2401 or BIOL 2404; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### HITT 1345 - HEALTH CARE DELIVERY SYSTEMS

3 Credits (3 hrs. lec., 1 hr. lab.) Examination of delivery systems including organization, financing, accreditation, licensure, and regulatory agencies. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 1353 - LEGAL AND ETHICAL ASPECTS OF HEALTH INFORMATION**

3 Credits (3 hrs. lec.) Concepts of privacy, security, confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 1355 - HEALTH CARE STATISTICS**

3 Credits (3 hrs. lec.) Principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 1401 - HEALTH DATA CONTENT AND STRUCTURE**

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information including content of health record documentation requirements, registries, indices, licensing, regulatory agencies, forms and screens. Prerequisites: Admission to the Health Information Technology program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 1441 - CODING AND CLASSIFICATION SYSTEMS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of coding rules, conventions, and guidelines using clinical classification systems. Prerequisites: BIOL 2401, HITT 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 2249 - RHIT COMPETENCY REVIEW**

2 Credits (2 hrs. lec.) Review Health Information Technology (HIT) competencies, skills, and knowledge. Prerequisites: Completion of all major courses on degree plan; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 2339 - HEALTH INFORMATION ORGANIZATION AND SUPERVISION**

3 Credits (3 hrs. lec.) Principles of organization and supervision of human, financial, and physical resources. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 2340 - ADVANCED MEDICAL BILLING AND REIMBURSEMENT**

3 Credits (2 hrs. lec., 2 hrs. lab.) Skill development coding to prepare reimbursement forms in various health care settings for submission to payors. Prerequisites: COSC 1401 and HITT 1213; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 2343 - QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT**

3 Credits (2 hrs. lec., 2 hrs. lab.) Study of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality management and performance improvement functions, utilization management, risk management, and medical staff data quality issues, and approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems. Prerequisites: HITT 1401 and 1345; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**HITT 2346 - ADVANCED MEDICAL CODING**

3 Credits (1 hr. lec., 5 hrs. lab.) ICD and CPT coding rules, conventions, and guidelines in complex case studies. Investigation of government regulations and changes in health care reporting. Prerequisites: Instructor approval; HITT 1441 with a C or better; HITT 1342 with a C or better; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 or higher level course (ENGL 1301) or placement by testing; MATH 0306

**HITT 2435 - CODING AND REIMBURSEMENT METHODOLOGIES**

4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced coding techniques with emphasis on case studies, health

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records, and federal regulations regarding prospective payment systems and methods of reimbursement. Prerequisites: HITT 1342 and 1441; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **HITT 2460 - CLINICAL - MEDICAL RECORDS TECHNOLOGY TECHNICIAN**

4 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Completion of all major program courses; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **HMSY 1337 - INTRODUCTION TO HOMELAND SECURITY**

3 Credits (3 hrs. lec.) Overview of homeland security. Evaluation of the progression of homeland security issues throughout Texas and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues. Prerequisite: None

### **HMSY 1340 - HOMELAND SECURITY INTELLIGENCE OPERATIONS**

3 Credits (3 hrs. lec.) A study of the intelligence community. Includes the role of intelligence and law enforcement. Topics include collection methods, management of operations, classification, production and analysis, and assessment of threat vulnerability. Source development will be conducted. Prerequisite: HMSY 1337 with a minimum grade of C

### **HMSY 1371 - TRANSPORTATION AND BORDER SECURITY**

3 Credits (3 hrs. lec.) This course provides an in-depth view of modern border and transportation security. Specific topics may include security for seaports, ships, aircrafts, trains, trucks, pipelines, buses, etc. The course will also focus on the technology needed to detect terrorists and their weapons as well as include discussions on legal, economic, political, and cultural aspects of the problem. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 or higher level course (ENGL 1301) or placement by testing

### **HPRS 1206 - ESSENTIALS OF MEDICAL TERMINOLOGY**

2 Credits (2 hrs. lec.) A study of medical terminology, word origin, structure, and application. Prerequisites: Admission into the Medical Assisting Program; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 or higher level course (ENGL 1301) or placement by testing

### **HPRS 2300 - PHARMACOLOGY FOR HEALTH PROFESSIONS**

3 Credits (3 hrs. lec.) A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **HPRS 2301 - PATHOPHYSIOLOGY**

3 Credits (3 hrs. lec.) Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reactions to diseases and injuries. Prerequisites: BIOL 2401 or BIOL 2404; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **HPRS 2321 - MEDICAL LAW AND ETHICS FOR HEALTH PROFESSIONALS**

3 Credits (3 hrs. lec.) Principles, procedures, and regulations governing the legal and ethical relationships among physicians, patients, and health care professionals. Includes current ethical issues related to the various healthcare professions and patient confidentiality. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **HPRS 2331 - GENERAL HEALTH PROFESSIONS MANAGEMENT**

3 Credits (3 hrs. lec.) Exploration and application of management concepts necessary for effective health profession operations. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HPRS 2332 - HEALTH CARE COMMUNICATIONS**

3 Credits (3 hrs. lec.) Methods of communication with clients, client support groups, health care professionals, and external agencies. Prerequisites: ITSC 1401 or COSC 1401; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HRPO 1311 - HUMAN RELATIONS**

3 Credits (3 hrs. lec.) Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment. Prerequisite: None

**HRPO 2301 - HUMAN RESOURCE MANAGEMENT**

3 Credits (3 hrs. lec.) Behavioral and legal approaches to the management of human resources organizations. Prerequisite: None

**HRPO 2307 - ORGANIZATIONAL BEHAVIOR**

3 Credits (3 hrs. lec.) The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences. Prerequisite: None

**HUMA 1301 - INTRODUCTION TO THE HUMANITIES I: PREHISTORY TO GOTHIC**

3 Credits (3 hrs. lec.) A study of the interpretation of human experience through an introduction to music, literature, the visual arts, history and philosophy. Focus is on gaining practical experience in inquiry, recognition and assessment. (2401035112) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HUMA 1302 - INTRODUCTION TO THE HUMANITIES II: EARLY RENAISSANCE TO THE PRESENT**

3 Credits (3 hrs. lec.) An interdisciplinary, multi-perspective assessment of cultural, political, philosophical, and aesthetic factors critical to the formulation of values and the historical development of the individual and society. HUMA 1302 will focus on the time period Early Renaissance to the present. (2401035112) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HUMA 1305 - INTRODUCTION TO MEXICAN-AMERICAN STUDIES**

3 Credits (3 hrs. lec.) Introduction to the field of Mexican-American/Chicano/a studies from its inception to the present. Interdisciplinary survey designed to introduce students to the salient cultural, economic, educational, historical, political, and social aspects of the Mexican-American/Chicano/a experience. (0502035125) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HUMA 1311 - MEXICAN-AMERICAN FINE ARTS APPRECIATION**

3 Credits (3 hrs. lec.) An examination of Mexican American/Chicano/a artistic expressions in the visual and performing arts. (5007035426) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HUMA 2319 - AMERICAN MINORITY STUDIES**

3 Credits (3 hrs. lec.) Historical, economic, social and cultural development of minority groups in America. (4511015325) Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

**HUMD 0101 - COLLEGE 101: FIRST YEAR INTRODUCTION (FYI)**

1 Credit (1 hr. lec.) In this course, students will learn how to adjust to college. Course content will evolve from student interests and needs. Some probable areas of study include: becoming familiar with campus resources, learning student success skills, and utilizing campus email and web services. Upon successful course completion, students will have developed an individualized education plan. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212) Prerequisite: None

**HUMD 0111 - STUDENT SUCCESS STRATEGIES**

1 Credit (1 hr. lec.) In this course, students will learn a series of strategies for mastering the skills needed for success in college courses. Strategies to be introduced address processing information from textbooks and lectures, studying for and taking tests and understanding the importance of self-concept in college success.

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As the strategies are introduced, students apply this to the content of courses in which they are currently enrolled. Upon successful course completion, students will have developed a system for learning which can be adapted for use in any learning situation. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212) Prerequisite: None

### HUMD 0114 - CAREER SEARCH STRATEGIES

1 Credit (1 hr. lec.) This course focuses on strategies that students need to develop realistic career goals. Topics emphasized include decision making and critical thinking, assessment for greater self-awareness, and research techniques for gathering occupational information. Upon successful course completion, students will be able to understand the career decision making process, identify/confirm career related abilities, interests, and values, apply various career investigation skills, and analyze viability of careers of interest. This course carries institutional credit but will not transfer nor be used to meet developmental requirements. (3201015212) Prerequisite: None

### HUMD 0330 - COLLEGE SUCCESS COURSE: 1<sup>ST</sup> YEAR EXPERIENCE

3 Credits (3 hrs. lec.) Many colleges and universities, and community colleges in particular, are becoming increasingly aware of the need for academic skill training designed to improve study systems. The purpose of this course is to increase the full realization of academic potential and to decrease academic failure. This course will aim to achieve this goal by helping the student to gain success in the academic environment and by providing the student with learning strategies and specific techniques to increase his/her effectiveness. Thus, the course will be designed to help the student develop new personal insights, new strategies for study and new approaches to self-management by using basic psychological principles. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisite: None

### HYDR 1305 - BASIC HYDRAULICS

3 Credits (2 hrs. lec., 2 hrs. lab.) Fundamentals of hydraulics including types of hydraulic pumps, cylinders, valves, motors, and related systems. Introduction to hydraulic schematic symbols as related to components. Prerequisite: None

### HYDR 1345 - HYDRAULICS AND PNEUMATICS

3 Credits (2 hrs. lec., 3 hrs. lab.) Discussion of the fundamentals of hydraulics and pneumatics, components of each system and the operations, maintenance, and analysis of each system. Prerequisite: None

### IBUS 1305 - INTRODUCTION TO INTERNATIONAL BUSINESS AND TRADE

3 Credits (3 hrs. lec.) The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise. Prerequisite: None

### IBUS 1371 - PRINCIPLES OF IMPORT/EXPORT

3 Credits (3 hrs. lec.) A study of the import and the export management process and procedures. Topics include governmental, commercial invoices, and traffic procedures. Application to human and public relations, management of personnel, finance, and accounting procedures. Prerequisite: None

### IBUS 2341 - INTERCULTURAL MANAGEMENT

3 Credits (3 hrs. lec.) Cross-cultural comparisons of management and communications processes. Emphasizes cultural, ethnic, geographic distinctions, and antecedents that affect individual, group, and organizational behavior. May include sociocultural demographics, economics, technology, political-legal issues, negotiations, and processes of decision making in the international cultural environment. Fulfills the multicultural requirement for the AAS in management. Prerequisite: None

### IBUS 2345 - IMPORT CUSTOM REGULATIONS

3 Credits (3 hrs. lec.) Duties and responsibilities of the licensed customs broker such as processes for customs clearance including appraisalment, bonded



warehouse entry, examination of goods, harmonized tariffs, fees, bonding, penalties, quotas, immediate delivery, consumption, and liquidation, computerized systems, laws, and regulations. Prerequisite: IBUS 1371 or departmental approval

### **IEIR 1310 - MOTOR CONTROLS**

3 Credits (2 hrs. lec., 4 hrs. lab.) General principles and fundamentals of electrical controls and control components including starters troubleshooting techniques, various protective devices, schematics, and diagrams. Student will develop "hands-on" skills using transformers, motors, magnetic control devices, relays, time delay circuits, reversing circuits and other control input devices. Prerequisites: CETT 1402, 1405 or 1409 or departmental approval; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### **IMED 1301 - INTRODUCTION TO DIGITAL MEDIA**

3 Credits (2 hrs. lec., 4 hrs. lab.) A survey of the theories, elements, and hardware/software components of digital media. Emphasis on conceptualizing and producing digital media presentations. Prerequisite: None

### **IMED 1316 - WEB DESIGN I**

3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in web design and related graphic design issues including mark-up languages, Web sites, and browsers. Emphasis is on the use of hypertext markup languages (XHTML) to design functional and compelling web pages. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **IMED 1341 - INTERFACE DESIGN**

3 Credits (2 hrs. lec., 4 hrs. lab.) Skill development in the interface design process including selecting interfaces relative to a project's content and delivery system. Emphasis on aesthetic issues such as iconography, screen composition, colors, and typography. Prerequisites: ARTC 1302 and ARTC 1317

### **IMED 1345 - INTERACTIVE DIGITAL MEDIA I**

3 Credits (2 hrs. lec., 4 hrs. lab.) Exploration of the use of graphics and sound to create interactive digital media applications and/or animations using industry standard authoring software. Prerequisite: ARTC 1317

### **IMED 1391 - SPECIAL TOPICS - EDUCATIONAL/ INSTRUCTIONAL MEDIA DESIGN**

3 Credits (2 hrs. lec., 4 hrs. lab.) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course will focus on video pre-production, production, and post-production for client-based projects. Prerequisite: Instructor approval

### **IMED 2309 - INTERNET COMMERCE**

3 Credits (2 hrs. lec., 4 hrs. lab.) An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce. Prerequisites: IMED 1316; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **IMED 2311 - PORTFOLIO DEVELOPMENT**

3 Credits (2 hrs. lec., 4 hrs. lab.) Preparation and enhancement of portfolio to meet professional standards, development of presentation skills, and improvement of job-seeking techniques. Prerequisite: Instructor approval

### **IMED 2313 - PROJECT ANALYSIS AND DESIGN**

3 Credits (2 hrs. lec., 4 hrs. lab.) Application of the planning and production processes for digital media projects. Emphasis on copyright and other legal issues, content design and production management. Practice in writing a proposal for a client and presenting it. Prerequisites: IMED 1301; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### **IMED 2315 - WEB DESIGN II**

3 Credits (2 hrs. lec., 4 hrs. lab.) A study of mark-up language and advanced layout techniques for creating Web pages. Emphasis on identifying the target audience and producing Web sites according to accessibility standards, cultural appearance, and legal issues. Prerequisites: IMED 1316; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

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### IMED 2345 - INTERACTIVE DIGITAL MEDIA II

3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in the use of scripting languages to create interactive digital media applications. Prerequisites: IMED 1345; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR higher level course (ENGL 1301) OR placement by testing

### IMED 2349 - INTERNET SERVER MANAGEMENT

3 Credits (2 hrs. lec., 4 hrs. lab.) Web server software installation, configuration, and maintenance. Includes scripting, and website. Prerequisites: IMED 1316 and ITSE 1402; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### IMED 2380 - COOPERATIVE EDUCATION - INTERACTIVE MEDIA

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Students must meet requirements for final semester; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### INDS 1311 - FUNDAMENTALS OF INTERIOR DESIGN

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to the elements and principles of design, the interior design profession, and the interior design problem-solving process. Prerequisites: MATH 0306 or equivalent test score; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### INDS 1315 - MATERIALS, METHODS AND ESTIMATING

3 Credits (2 hrs. lec., 4 hrs. lab.) A study of materials, methods of construction and installation, and estimating for interior design applications. Prerequisites: MATH 0306 or equivalent test score; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### INDS 1319 - TECHNICAL DRAWING FOR INTERIOR DESIGNERS

3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to reading and preparing technical construction drawings for interior design, including plans, elevations, details, schedules, dimensions and lettering. Prerequisites: MATH 0306 or equivalent test score; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### INDS 1345 - COMMERCIAL DESIGN I

3 Credits (2 hrs. lec., 4 hrs. lab.) A study of design principles applied to furniture layout and space planning for commercial interiors. Prerequisites: INDS 1349 and 2321; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing

### INDS 1349 - FUNDAMENTALS OF SPACE PLANNING

3 Credits (2 hrs. lec., 4 hrs. lab.) The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations. Prerequisites: INDS 1311 and 1319; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

### INDS 1351 - HISTORY OF INTERIORS I

3 Credits (3 hrs. lec., 1 hr. lab.) An in-depth historical survey of design in architecture, interiors, furnishings, and decorative elements from the ancient cultures through the Italian Renaissance time periods. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing, MATH 0306

### INDS 1352 - HISTORY OF INTERIORS II

3 Credits (3 hrs. lec., 1 hr. lab.) A multicultural historical survey of design in architecture, interiors, furnishings, and decorative elements from the post-Renaissance period to present time. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing, MATH 0306