Course Descriptions

The following pages provide course descriptions of all Cisco College courses, including those required for certificates, two-year degrees and transfer to four-year institutions. Courses and programs at Cisco College are listed below with designated abbreviations in parentheses. Suggested degree plans for transfer to specific baccalaureate programs can be found on the college website at www.cisco.edu

Accounting (ACCT, ACNT)
Agriculture (AGRI)
Anthropology (ANTH)

Art (ARTS)
Athletic Training (KINE)
Automotive Technology (AUMT, ABDR)

Biology (BIOL)
Business (BUSI)
Business Administration Management (BUSI)
Business Computer Information Systems (BCIS, COSC)
Business Systems Technology (ACNT, ITSW, POFI, POFT)
Certified Nurse Aide (NURA)
Chemistry (CHEM)
Child Care Technology (CDEC, TECA)
Communication (COMM)
Computer Science (COSC)
Cosmetology (CSME)
Criminal Justice (CICR, CJLE, CJSA, CRIJ, HMSY)
Developmental Education (DERW, DMAT) (DMAT) (DESS) (DESL) (DENG)
Economics (ECON)
Education (EDUC)
English (ENGL)
Fire Fighter (FIRS) (EMSP)
Fire Technology (FIRT)
French (FREN)
Geology (GEOL)
German (GERM)
Government (GOVT)
History (HIST)

Humanities (HUMA)
HVAC (HART)
Industrial Technology (BMGT, CNBT, CETT, DFTG, ELPT, ENTC, HART, HYDR, IEIR, PFPB, SEST, SMER, WDKW, WLDG)

Kinesiology (KINE)
Mathematics (MATH)
Management (ACNT, BMGT, BUSI, ITSC, ITSW, MRKG, HRPO)
Medical Assisting Technology (FMLD, HITT, MDCA)
Music (MUEN, MUAP, MUSI)
Nursing (RNSG, VNSG)
Pharmacy Technician (PHRA)
Philosophy (PHIL)
Phlebotomy (PLAB)
Physics (PHYS)
Psychology (PSYC)
Reading (READ)
Real Estate (RELE)
Respiratory Care Technology (RSPT)
Sociology (SOCI)
Spanish (SPAN)
Speech (SPCH)
Surgical Technology (HPRS, SRGT)
Theatre (DRAM)
Wrangler Band (MUAP, MUEN)
Wrangler Belles (KINE)
Welding (WLDG)

Texas Common Course Numbering System (TCCNS)
Cisco College complies with the TCCNS, a cooperative effort among Texas Community Colleges and Universities, to facilitate the transfer of freshman- and sophomore-level general academic courses. The
TCCNS provides a shared, uniform set of course descriptions for students and their advisors to use in determining both course equivalency and degree applicability of transfer credit on a statewide basis. When students transfer between two participating TCCNS institutions, a course taken at the sending institution transfers as the course carrying or cross-referenced with the same TCCNS designation at the receiving institution. Transfer courses having a common TCCNS number are indicated with an asterisk (*) on the following pages.

Courses are numbered by a four-digit number in the following manner: The first digit identifies the academic level: zero (0) indicates non-credit, one (1) indicates freshman level and two (2) indicates sophomore level. The second digit identifies credit hour value. The third and fourth digits uniquely identify the course.

For example, ENGL 1301 is a freshman level, 3-semester hour course and should be taken first in any sequence of college-level English courses. Courses numbered with a first digit of zero (0) are non-credit and will not count toward a degree.

The course numbers on the following pages are subject to the approval of the Texas Higher Education Coordinating Board.

Not all courses have a designated common number. Interested parties should see individual courses for prerequisites. The student should check with an advisor concerning the transferability of courses.

Any course may be cancelled at the start of a semester if the number of enrollments is too small or if instructional personnel are unavailable.

**Accounting**

**ACCT 2301 Principles of Financial Accounting**

This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedure and systems to accumulate, analyze, measure, and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows, and statement of shareholders’ equity to communicate the business entity’s results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities, and owner’s equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial reporting Standards (IFRS). Three lecture hours per week. Credit: 3 semester hours

Recommended co-requisite: MATH 1324

**ACCT 2302 Principles of Managerial Accounting**

This course is an introduction to the fundamental concepts of managerial accounting appropriate for all organizations. Students will study information from the entity’s accounting system relevant to decisions made by internal managers, as distinguished from information relevant to users who
are external to the company. The emphasis is on the identification and assignment of product costs, operational budgeting and planning, cost control, and management decision making. Topics include product costing methodologies, cost behavior, operational and capital budgeting, and performance evaluation. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: ACCT 2301

**ACNT 1303 Introduction to Accounting I**
A study of accounting for merchandising, notes payable, notes receivable, valuation of receivables and equipment and valuation of inventories in a manual and computerized environment. Three lecture hours per week.
Credit: 3 semester hours

**ACNT 1304 Introduction to Accounting II**
Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package. One lecture hour, two lab hours per week.
Credit: 3 semester hours
Prerequisite: ACNT 1303

**ACNT 1311 Introduction to Computerized Accounting**
Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package. One lecture hours, two lab hours per week.
Credit: 3 semester hours
Prerequisite: ACNT 1303

**Agriculture**

**AGRI 1131 The Agricultural Industry***
Overview of world agriculture, nature of the industry, resource conservation and the American agricultural system, including production, distribution and marketing; recommended for all freshmen agriculture majors. One lecture hour per week.
Credit: 1 semester hour

**AGRI 1311 Dairy Science***
Survey of the dairy industry including dairy breeds, standards for selection and culling, herd replacements, feeding, management, physiology and health maintenance. Food value for milk, tests for composition and quality, and use and processing of market milk and dairy products. Three lecture hours, one lab hour per week.
Credit: 3 semester hours

**AGRI 1407 Agronomy***
Principles and practices in the development, production and management of field crops including plant breeding, plant diseases, soils, insect control and weed control. Three lecture hours, three lab hours per week.
Credit: 4 semester hours
AGRI 1415 Horticulture*
Structure, growth, and development of horticultural plants. Examination of environmental effects, basic principles of reproduction, production methods ranging from outdoor to controlled climates, nutrition, and pest management. Three lecture hours, three lab hours per week.
Credit: 4 semester hours

AGRI 1419 Introductory Animal Science*
Scientific animal production and the importance of livestock and meat industries. Selection, reproduction, nutrition, management and marketing of livestock. Three lecture hours, three lab hours per week.
Credit: 4 semester hours

AGRI 1325 Marketing of Agricultural Products*
Operations in the movement of agricultural commodities from producer to consumer, including the essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing and risk bearing. Three lecture hours per week.
Credit: 3 semester hours

AGRI 2301 Agricultural Power Units*
Fundamentals of internal combustion engines: gasoline, diesel and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating and cooling systems of agricultural power machinery. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

AGRI 2303 Agricultural Construction I (Welding)*
Selection, use and maintenance of hand and power tools; arc and oxy-acetylene welding; and construction materials and principles; cold metalwork; soldering and sheet metal. Two lecture hours, four lab hours per week.
Credit: 3 semester hours

AGRI 2317 Introduction to Agricultural Economics*
Fundamental economic principles and their applications to the problems of the industry of agriculture. Three lecture hours per week.
Credit: 3 semester hours

AGRI 2321 Livestock Evaluation*
Evaluation and grading of market cattle, swine, sheep, and goats and their carcasses and wholesale cuts. Emphasis will be placed on value determination. Selection and evaluation of breeding cattle, sheep, swine, and goats with emphasis on economically important traits. Three lecture hours per week.
Credit: 3 semester hours

AGRI 2330 Wildlife Conservation and Management*
Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

Anthropology

**ANTH 2346 General Anthropology***
Study of human beings, their antecedents and related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, and ethnology. Three lecture hours per week.
Credit: 3 semester hours

**ANTH 2351 Cultural Anthropology***
Key concepts, methods and theory in the study of cultural diversity, social institutions, linguistics, and culture change among world peoples. Three lecture hours per week.
Credit: 3 semester hours

Arts

**ARTS 1301 Art Appreciation***
A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts.
Credit: 3 semester hours

**ARTS 1311 Design I***
An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design. Three lecture hours, three lab hours per week.
Credit: 3 semester hours

**ARTS 1312 Design II***
An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design. Three lecture hours, three lab hours per week.
Credit: 3 semester hours
Prerequisite: ARTS 1311

**ARTS 1316 Drawing I***
A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline. Three lecture hours, three lab hours per week.
Credit: 3 semester hours

**ARTS 1317 Drawing II***
A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will
employ critical analysis to broaden their understanding of drawing as a discipline. Three lecture hours, three lab hours per week. 
Credit: 3 semester hours 
Prerequisite: ARTS 1316 

**ARTS 1325 Drawing and Painting*** 
Drawing and painting for non-art majors. Three lecture hours per week. 
Credit: 3 semester hours. 

**ARTS 2313 Design Communications I*** 
Communication of ideas through processes and techniques of graphic design and illustration. Three hours lecture. 
Credit: 3 semester hours. 

**ARTS 2316 Painting I*** 
Exploration of ideas using painting media and techniques. Three lecture hours, three lab hours per week. 
Credit: 3 semester hours 
Co-requisite: ARTS 1311 or 1316 

**ARTS 2317 Painting II*** 
Exploration of ideas using painting media and techniques. Three lecture hours, three lab hours per week. 
Credit: 3 semester hours 
Prerequisite: ARTS 2316 

**ARTS 2326 Sculpture I*** 
Exploration of ideas using sculpture media and techniques. Three lecture hours, three lab hours per week. 
Credit: 3 semester hours 
Prerequisite: ARTS 1312 or permission of instructor 

**ARTS 2348 Digital Art I*** 
Studio art courses that explore the potential of the computer hardware and software medium for their visual, conceptual, and practical uses in the visual arts. Three lecture hours per week. 
Credit: 3 semester hours 

**ARTS 2389 Academic Cooperative*** 
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 studio art and/or art history. Three lecture hours, three lab hours per week. 
Credit: 3 semester hours 
Prerequisite: ARTS 1311 or permission of instructor
**Automotive Technology**

**AUMT 1305 Introduction to Automotive Technology**
An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical schematic diagrams and service manuals. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 1407 Automotive Electrical Systems**
An overview of automotive electrical Systems including topics in operational theory, testing, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical schematic diagrams and service manuals. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 1410 Automotive Brake Systems**
Operation and repair of drum/disc type brake systems. Emphasis on safe use of modern equipment. Topics include brake theory, diagnosis, and repair of power, manual, antilock brake systems, and parking brakes. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 1419 Automotive Engine Repair**
Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 1416 Suspension and Steering**
A study of theory and operation of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 1445 Climate Control Systems**
Diagnosis and repair of manual/electronic climate control systems. Includes the refrigeration cycles and EPA guidelines for refrigerant handling. May be taught manufacturer specific. Two lecture hours, four lab hours.
Credit: 4 semester hours

**AUMT 2313 Automotive Drive Train and Axles**
A study of automotive clutches, clutch operation devices, manual transmissions/ transaxles, and differentials with emphasis on the diagnosis and the repair of transmissions/transaxles and drive lines. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 2325 Automatic Transmission and Transaxle**
A study of the operation, hydraulic principles, and related circuits of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper techniques. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 2417 Engine Performance Analysis I**
Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 2421 Automatic Electrical Diagnosis and Repair**
Repair of automotive electrical subsystems, lightening, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. Maybe taught manufacturer specific.
Credit: 4 semester hours

**AUMT 2434 Engine Performance Analysis II**
A study of diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems; and proper use of advanced engine performance diagnostic equipment. May be taught manufacturer specific. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**AUMT 2443 Advanced Emission Systems Diagnostics**
Diagnostics and repair of emission control systems with emphasis on the application of advanced diagnostic information, tools, and techniques. Course will include state and federal laws required for preparation for licensing. May be taught with manufacturer specific instructions. Two hours lecture, four hours lab per week.
Credit: 4 semester hours

**AUMT 2457 Automotive Alternative Fuels**
A study of the composition and use of various alternative automobile fuels including retrofit procedures and applications, emission standards, availability, and cost effectiveness. Overview of federal and state legislation concerning fuels. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**DMER 1406 Diesel Engine I**
An introduction to the basic principles of diesel engines and systems. Two lecture, four lab hours per week.
Credit: 4 semester hours
Biology

**BIOL 1322 Nutrition & Diet Therapy I***
Study of the chemical, physical, and sensory properties of food; nutritional quality; and food use and diet applications.
Credit: 3 semester hours
Prerequisite: One semester of chemistry and/or anatomy and physiology recommended

**BIOL 1406 Biology for Science Majors I***
Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Three lecture hours, three lab hours per week.
Credit: 4 semester hours
Pre-requisite: MATH 1314 College Algebra (3 SCH version) Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

**BIOL 1407 Biology for Science Majors II***
The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours
Prerequisite: BIOL 1406

**BIOL 1408 Biology for Non-Science Majors I***
Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Laboratory activities will reinforce same topics. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours

**BIOL 1409 Biology for Non-Science Majors II***
This course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Laboratory activities will reinforce same topics.
Three lecture hours, three laboratory hours per week.
Credit: 4 Semester hours

**BIOL 1411 General Botany***
Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)
Prerequisite: MATH 1314 College Algebra (3 SCH version). Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended
**BIOL 1413 General Zoology***
Fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. (This course is intended for science majors.)
Prerequisite: MATH 1314 College Algebra (3 SCH version). Successful completion of College Algebra or concurrent enrollment in higher level mathematics is recommended.

**BIOL 2289 Academic Cooperative***
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.
Credit: 2 semester hours

**BIOL 2389 Academic Cooperative***
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.
Credit: 3 semester hours

**BIOL 2401 Anatomy and Physiology I***
Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: College ready in Reading and Writing, Biology 1406 or 1413, or approval of Chairperson

**BIOL 2402 Anatomy and Physiology II***
Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized. A continuation of BIOL 2401. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: College ready in Reading and Writing, Biology 2401, or approval of Chairperson

**BIOL 2421 Microbiology for Science Majors***
Principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours (transferable)
Prerequisite: College ready in Reading and Writing, completed MATH 0401, Chemistry 1411 plus BIOL 1406 and BIOL 1407 or approval of Chairperson
Business Computer Information Systems

**BCIS 1305 Business Computer Applications***
Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications including word processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the Internet.
Credit: 3 semester hours

Business & Management

Business Systems Technology / Management

**ACNT 1303 Introduction to Accounting I**
A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliation, and payroll. Three lecture hours per week.
Credit: 3 semester hours

**ACNT 1304 Introduction to Accounting II**
A study of accounting for merchandising, notes payable, notes receivable, valuation of receivable and equipment, and valuation of inventories in a manual and computerized environment. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: ACNT 1303

**ACNT 1311 Introduction to Computerized Accounting**
Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package. Two lecture hours, two lab hours per week.
Credit: 3 semester hours
Prerequisite: ACNT 1303

**BMGT 1305 Communications in Management**
Basic theory and processes of communication skills necessary for the management of an organization’s workforce. Three lecture hours per week.
Credit: 3 semester hours

**BMGT 1309 Information and Project Management**
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. Three lecture hours per week.
Credit: 3 semester hours

**BMGT 1327 Principles of Management**
An introduction to the various theories, processes, and functions of management; apply theories to a business environment; identify leadership roles in organizations; and describe elements of the communication process.  
Credit: 3 semester hours

**BMGT 1344 Negotiations and Conflict Management**
Theories which aid in the diagnosis of interpersonal and intergroup conflict. The role of manager as negotiator, intermediary, and problem-solver. Three lecture hours per week.  
Credit: 3 semester hours

**BMGT 1391 Special Topics in Business Administration Management and General Topics**
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.  
Credit: 3 semester hours

**BMGT 1482, 1483, 2482 Cooperative Education**
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. One lecture hour, twenty-one lab hours per week.  
Credit: 4 semester hours

**BMGT 2303 Problem solving and Decision Making**
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. Three lecture hours per week.  
Credit: 3 semester hours

**BMGT 2305 Advanced Communications in Management**
A study of advanced principles of oral and written communications for managers. Three lecture hours per week.  
Credit: 3 semester hours

**BMGT 2309 Leadership**
Concepts of leadership and its relationship to management. Prepares the student with leadership and communication skills needed to motivate and identify leadership styles. Three lecture hours per week.  
Credit: 3 semester hours

**BMGT 2311 Change Management**
Knowledge, skills, and tools that enable a leader/organization to facilitate change in a pro-active participative style. Three lecture hours per week.  
Credit: 3 semester hours
**BMGT 2347 Critical Thinking and Problem Solving**
Instruction in interpreting data for effective problem solving and recommending corrective action with emphasis on a structured approach to critical thinking and problem solving in a term environment.
Credit: 3 semester hours

**BMGT 2431 Principles of Quality Management**
Quality of productivity in organizations. Includes planning for quality throughout the organization, analysis of costs of quality, and employee empowerment. Four lecture hours per week.
Credit: 4 semester hours

**BUSG 1302 E-Business Management**
Introduction to business. Includes the internet, infrastructure for electronic commerce, markup languages, web-based tools and software, security issues, and electronic payment systems. Also covers strategies for marketing, sales, and purchasing; legal, ethical, and tax issues; and management functions. Three lecture hours per week.
Credit: 3 semester hours

**BUSG 1307 Entrepreneurship and Economic Development**
Overview of entrepreneurship as an economic development strategy. Includes community support systems for entrepreneurs. Three lecture hours per week.
Credit: 3 semester hours

**BUSG 1341 Small Business Financing**
An overview of business financing options and capital markets. Students will be able to estimate required funding for new businesses and understand financing needs for expansion of existing businesses. Operations financing, risk management, and tax matters will also be addressed. Three lecture hours per week.
Credit: 3 semester hours

**BUSG 2309 Small Business Management**
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. Three lecture hours per week.
Credit: 3 semester hours

**BUSI 1301 Business Principles**
This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management, and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal and regulatory environment, business ethics, social responsibility, and international business. Emphasized is the dynamic role of business in everyday life.
Credit: 3 semester hours
**BUSI 1307 Personal Finance***
Personal and family account, budgets and budgets and budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting or home ownership, and wills and trust plans.
Credit: 3 semester hours

**HRPO 2301 Human Resource Management**
Behavioral and legal approaches to the management of human resources in organizations. Three lecture hours per week.
Credit: 3 semester hours

**HRPO 2307 Organizational Behavior**
The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences. Three lecture hours per week.
Credit: 3 semester hours

**IBUS 1305 Introduction to International Business and Trade**
The techniques for entering the international market. 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. Three lecture hours per week.
Credit: 3 semester hours

**ITSC 1301 Introduction to Computers**
Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Presents basic concepts in the fields of business intelligence, business analytics, and information science. Three lecture hours per week.
Credit: 3 semester hours

**ITSW 1301 Introduction to Word Processing**
An overview of the production of documents, tables, and graphics. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

**ITSW 1404 Introduction to Spreadsheets**
Instruction in the concepts, procedures, and application of electronic spreadsheets. Two lecture hours, two lab hours per week.
Credit: 4 semester hours

**ITSW 1407 Introduction to Databases**
Introduction to database theory and the practical application of a database. Two lecture hours, two lab hours per week.
Credit: 4 semester hours
**ITSW 1410 Introduction to Presentation Graphics Software**
Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. Three lecture hours, 2 lab hours per week.
Credit: 4 semester hours
Prerequisite: POFI 2301 Word Processing

**MRKG 1311 Principles of Marketing**
Introduction to the marketing mix functions and process. Includes identification of consumer and organizational needs and explanation of environmental issues. Three lecture hours per week.
Credit: 3 semester hours

**MRKG 2348 Marketing Research and Strategies**
Practical experiences in analyzing marketing studies using data-driven decision-making processes. Includes interrelationships among the components of the marketing mix. This course integrates business analytics and marketing. Three lecture hours per week.
Credit: 3 semester hours

**POFI 2301 Word Processing**
Word processing software focusing on business applications. Two lecture hours, two lab hours per week.
Credit: 3 semester hours
Prerequisite: ITSW 1301

**POFI 2331 Desktop Publishing**
In-depth coverage of desktop publishing terminology, text editing, and use of design principles. Emphasis on layout techniques, graphics, multiple page displays, and business applications. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

**POFI 2340 Advanced Word Processing**
Advanced techniques in merging, macros, graphics, and desktop publishing. Includes extensive formatting for technical documents. Emphasis on business applications. Two lecture hours, two lab hours per week.
Credit: 3 semester hours
Prerequisite: POFI 2301

**POFI 2486 Internship: Business/Office Automation/Technology/Data Entry**
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. Thirty external hours per week.
Credit: 4 semester hours

**POFT 1309 Administrative Office Procedures I**
Study of current office procedures, duties, and responsibilities applicable to an office environment. Three lecture hours per week. Credit: 3 semester hours

**POFT 1313 Professional Workforce Preparation**
Preparation for the work force including ethics, interpersonal relations, professional attire, and career advancement. Two lecture hours, two lab hours per week. Credit: 3 semester hours

**POFT 1319 Records and Information Management I**
Introduction to basic records information management filing systems including manual and electronic filing. Three lecture hours per week. Credit: 3 semester hours

**POFT 1325 Business Math and Machine Applications**
Business math problem-solving skills using office technology. Three lecture hours per week. Credit: 3 semester hours

**POFT 2301 Intermediate Keyboarding**
A continuation of keyboarding skills emphasizing acceptable speed, and accuracy levels and formatting documents. Two lecture hours, two lab hours per week. Credit: 3 semester hours

**POFT 2312 Business Correspondence & Communications**
Development of writing and presentation skills to produce effective business communications. Three lecture hours per week. Credit: 3 semester hours

**POFT 2431 Administrative Systems**
Advanced concepts of project management and office procedures integrating software applications. Three lecture hours and three lab hours per week. Credit: 4 semester hours
Prerequisite: Computer application software proficiency and basic office procedures competency.

**POFT 2433 Advanced Keyboarding**
Study of advanced concepts in variety of office-simulated correspondence activities with emphasis on organization, prioritizing, decision making, composition, placement, accuracy, and speed development. Two lecture hours, three lab hours per week. Credit: 4 semester hours
Prerequisite: POFT 2301

Chemistry

**CHEM 1405 Introductory Chemistry I**

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Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and allied health students. (This course may not be substituted for CHEM 1411). Three lecture hours, four lab hours per week.
Credit: 4 semester hours
Prerequisite: MATH 0402 or equivalent
Note: This course is only offered alternate years at the Cisco location.

CHEM 1411 General Chemistry I*
Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. LAB: Basic laboratory experiments supporting theoretical principles presented in CHEM 1411 lecture; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: MATH 1314—College Algebra or equivalent academic preparation
Note: This course is only offered alternate years at the Cisco location.

CHEM 1412 General Chemistry II*
Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry. LAB: Basic laboratory experiments supporting theoretical principles presented in CHEM 1412 lecture; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: CHEM 1411
Note: This course is only offered alternate years at the Cisco location.

CHEM 2289 Academic Cooperative*
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 scientific study of inanimate objects, processes of matter and energy, and associated phenomena.
Credit: 2 semester hours

CHEM 2423 Organic Chemistry I*
Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction
mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: Chemistry 1412
Note: this course only offered at the Abilene location.

CHEM 2425 Organic Chemistry II*
Advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS. A continuation of Chemistry 2423. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: Chemistry 2423
Note: this course only offered at the Abilene location.

Child Development and Early Childhood

**CDEC 1303 / TECA 1303** Families, School & Community
Study of the child, family, community, and schools. Includes parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Requires students to participate in a minimum of 16 hours field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations. Three lecture hours and one lab hour per week.
Credit: 3 semester hours

**CDEC 1311 / TECA 1311** Educating Young Children
An introduction to the education of the young child. Includes developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Requires students to participate in a minimum of 16 hours of field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations. Three lecture hours, one lab hour per week.
Credit: 3 semester hours

**CDEC 1313 Curriculum Resources for Early Childhood Program**
A study of the fundamentals of developmentally appropriate curriculum design and implementation in early care and education programs for children. Three lecture hours per week.
Credit: 3 semester hours
**CDEC 1318 / TECA 1318* Wellness of the Young Child**
Factors impacting the well-being of young children. Includes healthy behavior, food, nutrition, fitness, and safety practices. Focuses on local and national standards and legal implications of relevant policies and regulations. Course content is aligned with State Board of Educator Certification Pedagogy and Professional Responsibilities standards. Requires students to participate in a minimum of 16 hours field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations. Three lecture hours, one lab hour per week.
Credit: 3 semester hours

**CDEC 1319 Child Guidance**
An exploration of guidance strategies for promoting prosocial behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. Practical application through direct participation with children. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 1321 The Infant and Toddler**
A study of appropriate infant and toddler programs (birth to age 3), including an overview of development, quality routines, learning environments, materials and activities, and teaching/guidance techniques. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 1323 Observation and Assessment**
A study of observation skills, assessment techniques, and documentation of children's development. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 1335 Early Childhood Development 3-5 Years**
Principles of typical growth and development from three to five years. Emphasizes physical, cognitive, emotional, and social development. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 1354 / TECA 1354* Child Growth and Development**
Physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 1356 Emergent Literacy for Early Childhood**
An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based integrated curriculum. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 1358 Creative Arts for Early Childhood**
An exploration of principles, methods, and materials for teaching children music, movement, visual arts, and dramatic play through process-oriented experiences to support divergent thinking. Three lecture hours per week.
Credit: 3 semester hours
CDEC 1359 Children with Special Needs

CDEC 1359 Children with Special Needs
A survey of information regarding children with special needs including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, the advocacy role, and legislative issues. Three lecture hours, one lab hour per week.
Credit: 3 semester hours

CDEC 1366 Practicum-Child Development and Early Childhood
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. One lecture hour, twenty lab hours per week.
Credit: 3 semester hours

CDEC 1417 Child Development Associate Training I
Based on the requirements for the Child Development Associate National Credential (CDA). Three of the 13 functional areas of study include family, program management, and professionalism. Topics on CDA overview, general observation skills, and child growth and development overview. Three lecture hours, four lab hours per week.
Credit: 3 semester hours

CDEC 2304 Child Abuse & Neglect
Methods used in the identification of physical, emotional, and sexual abuse and neglect with an emphasis on developing skills for working with children and families. Includes methods of referral to public and private agencies that deal with investigation and treatment. Three lecture hours.
Credit: 3 semester hours

CDEC 2307 Math and Science for Early Childhood
An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

CDEC 2315 Diverse Cultural/Multilingual Education
An overview of multicultural topics and education. Includes relationships with the family and community awareness and sensitivity to diversity, and individual needs of children. Three lecture hours per week.
Credit: 3 semester hours

CDEC 2326 Administration of Programs for Children I
Application of management procedures for early child care education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs,
policies, fiscal management, regulations, staffing, evaluation, and communication. Three lecture hours, one lab hour per week.
Credit: 3 semester hours

**CDEC 2341 The School Age Child**
A study of appropriate programs for the school age child (5 to 13 years), including an overview of development, learning environments, materials, and activities and teaching/guidance techniques. Three lecture hours per week.
Credit: 3 semester hours

**CDEC 2366 Practicum (or Field Experience)-Child Care Provider/Assistant**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. One lecture hour, 20 lab hours per week.
Credit: 3 semester hours

**CDEC 2422 Child Development Associate Training II**
A continuation of the study of the requirements for the Child Development Associate National Credential (CDA). The six functional areas of study include safe, healthy learning environment, self, social and guidance. Three lecture hours, four lab hours per week.
Credit: 3 semester hours

**CDEC 2424 Child Development Associate Training III**
A continuation of the study for the requirements for the Child Development Associate National Credential (CAN). The four functional areas of study are creative, cognitive, physical, and communication. Three lecture hours, four lab hours per week.
Credit: 3 semester hours

**Communication**

**COMM 1307 Introduction to Mass Communication***
Survey of basic content and structural elements of mass media and their functions and influences on society. Three lecture hours per week.
Credit: 3 semester hours

**COMM 1318 Photography I***
Introduction to the basics of photography, including techniques and equipment operation. Three lecture hours per week.
Credit: 3 semester hours

**COMM 1335 Introduction to Electronic Media***
An overview of the development, regulation, economics, social impact, and industry practices in electronic media. Three lecture hours per week.
Credit: 3 semester hours

**COMM 2300 Media Literacy***
Criticism and analysis of the function, role, and responsibility of the mass media in modern society from the consumer perspective. Includes the ethical problems and issues facing each media format, with the effect of political, economic, and cultural factors on the operation of the media. Three lecture hours per week.
Credit: 3 semester hours

**COMM 2302 Principles of Journalism**
This course examines major issues facing the news media in a democratic society and explores journalism’s role in shaping public perception and affecting policy. Three lecture hours per week.
Credit: 3 semester hours

**COMM 2311 Media Writing**
Fundamentals of writing for the mass media. Includes instruction in professional methods and techniques for gathering, processing, and delivering content. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: ENGL 1301

**COMM 2315 News Reporting**
This course focuses on advanced news-gathering and writing skills. It concentrates on the three-part process of producing news stories: discovering the news, reporting the news, and writing the news in different formats. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: COMM 2311

**COMM 2332 Radio/Television News**
Preparation and analysis of news styles for the electronic media. Three lecture hours per week.
Credit: 3 semester hours

**COMM 2339 Writing for Radio, Television, & Film**
Introduction to basic script formats, terminology, and writing techniques, including the writing of commercials, public service announcements, promotions, news, documentary, and fictional materials. Three lecture hours per week.
Credit: 3 semester hours

**Cosmetology**

**CSME 1310 Introduction to Haircutting & Related Theory**
Introduction to the theory and practice of hair cutting. Topics include terminology, implements, sectioning and finishing techniques. One lecture hour, eight lab hours per week.
Credit: 3 semester hours

**CSME 1354 Artistry of Hair Design I**
Introduction to hair design. Topics include the theory and applications of wet styling, thermal hair styling, and finishing techniques. One lecture hour, seven lab hours per week.
Credit: 4 semester hours
CSME 1401 Orientation to Cosmetology
An overview of the skills and knowledge necessary for the field of Cosmetology. Two lecture hours, eight lab hours per week.
Credit: 4 semester hours

CSME 1405 Fundamentals of Cosmetology
A course in the basic fundamentals of cosmetology. Topics include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out. Two lecture hours, eight lab hours per week.
Credit: 4 semester hours

CSME 1434 Cosmetology Instructor I
The fundamentals of instructing cosmetology students. Two lecture hours, seven lab hours per week.
Credit: 4 semester hours
Pre requisite: Current Texas License

CSME 1435 Orientation to the Instruction of Cosmetology
An overview of the skills and knowledge necessary for the instruction of cosmetology students. Two lecture hours, six lab hours per week.
Credit: 4 semester hours

CSME 1441 Principles of Nail technology II
Advanced theory and practice of nail technology and enhancements. Topics include application and art of nail technology.
Two lecture hours, eight lab hours per week.
Credit: 4 semester hours

CSME 1443 Manicuring & Related Theory
Presentation of the theory and practice of nail technology. Topics include terminology, application, and workplace competencies related to nail technology. Two lecture hours, eight lab hours per week.
Credit: 4 semester hours

CSME 1447 Principles of Skin Care/Facials
In-depth coverage of the theory and practice of skin care, facials, and cosmetics. One lecture hour, eight lab hours per week.
Credit: 4 semester hours

CSME 1451 Artistry of Hair Theory and Practice
Instruction in the artistry of hair design. Topics include theory, techniques and application of hair design. Two lecture hours, seven lab hours per week.
Credit: 4 semester hours
**CSME 1453 Chemical Reformation & Theory**
Presentation of the theory and practice of chemical reformation. Topics include terminology, application, and workplace competencies related to chemical reformation. Two lecture hours, seven lab hours per week.
Credit: 4 semester hours

**CSME 2237 Advanced Cosmetology Techniques**
Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies. One lecture hour, eight lab hours per week.
Credit: 2 semester hours

**CSME 2244 Preparation for State Written Examination**
Presentation and practice of the theory, techniques, and application relating to the curriculum for the completion of the State Licensing Written Exam. One lecture hour and three lab hours per week.
Credit: 2 semester hours

**CSME 2245 Preparation for State Practical Examination**
Presentation and practice of the theory, techniques, and application relating to the curriculum for the completion of the State Licensing Practical Exam. One lecture hour and three lab hours per week.
Credit: 2 semester hours

**CSME 2342 Cosmetology Small Business Management**
Professional training and theory in business ethics, goals, salon operation and record keeping. Four lecture hours and three lab hours per week.
Credit: 3 semester hours

**CSME 2343 Cosmetology Small Business Management**
Professional training and theory in business ethics, goals, salon operation and record keeping. Four lecture hours and three lab hours per week.

**CSME 2401 Principles of Hair Coloring and Related Theory**
Presentation of the theory, practice, and chemistry of hair color. Topics include terminology, application, and workplace competencies. Two lecture hours, seven lab hours per week.
Credit: 4 semester hours

**CSME 2414 Cosmetology Instructor II**
A continuation of the fundamentals of instructing cosmetology students. Two lecture hours, six lab hours per week.
Credit: 4 semester hours

**CSME 2443 Salon Development**
Procedures necessary for salon development. Topics include professional ethics and goal setting, salon operation, and record keeping. Three lecture hours, three lab hours per week. Credit: 3 semester hours

**CSME 2444 Cosmetology Instructor IV**
Advanced concepts of instruction in a cosmetology program. Topics include demonstration, development, and implementation of advanced evaluation and assessment techniques. Two lecture hours, six lab hours per week. Credit: 4 semester hours

**CSME 2445 Instructional Theory and Clinic Operation**
An overview of the objectives required by the Texas Department of Licensing and Regulation Instructor Examination. Two lecture hours, six lab hours per week. Credit: 4 semester hours

**CSME 2449 Cosmetology Instructor III**
Presentation of lesson plan assignments and evaluation techniques. Two lecture hours, six lab hours per week. Credit: 4 semester hours

**CSME 2541 Preparation for the State Licensing Examination**
Preparation for the state licensing examination. Theory, techniques, and application relating to the curriculum for the completion of the T.C.C. written and practical exam. Three lecture hours, five lab hours per week. Credit: 5 semester hours

**Criminal Justice**

**CJCR 1304 Probation and Parole**
A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines. Three lecture hours per week. Credit: 3 semester hours

**CJCR 1307/ CRIJ 2313* Correctional Systems & Practices**
Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization. Treatment and rehabilitation; current and future issues. Three lecture hours per week. Credit: 3 semester hours

**CJCR 2324/ CRIJ 2301* Community Resources in Corrections**
An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; future trends in community treatment. Three lecture hours per week. Credit: 3 semester hours
**CJLE 1111 Basic Firearm Training**
Instruction on firearm safety, cleaning, and care techniques, proper shooting principles, and proficiency with a handgun and shotgun. One lecture hour per week.
Credit: 1 semester hour

**CJLE 1249 Intermediate Arrest, Search and Seizure**
Probable cause; detention and arrest; exceptions to search warrant requirements; principles of preparing valid search warrants; pretrial suppression hearings; and civil liability for improper arrests, searches, and seizures. Three lecture hours per week.
Credit: 3 semester hours

**CJLE 1333 Traffic Law and Investigations**
Instruction in the basic principles of traffic control, traffic law enforcement, court procedures and traffic law. Emphasis on the need for a professional approach in dealing with traffic law violators and the police role in accident investigation and traffic supervision. Three lecture hours per week.
Credit: 3 semester hours

**CJLE 1345 Intermediate Crime Scene Investigation**
Topics include objectives, preparations, procedures, and methods of crime scene search; value of crime scene sketches and their relationship to crime scene photographs; fingerprints as physical evidence, fingerprint identification and classification, types of impressions and techniques for locating and developing impressions. Three lecture hours per week.
Credit: 3 semester hours

**CJLE 2345 Vice and Narcotics Investigation**
Classifications of commonly used narcotics, dangerous drugs, gambling, sex crimes, fraud, gangs, and investigative techniques. Includes proper interdiction procedures and techniques. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1312/ CRIJ 1307* Crime in America**
American crime problems in historical perspective; social and public factors affecting crime; impact and crime trends; social characteristics of specific crimes; prevention of crimes. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1313/ CRIJ 1306* Court Systems and Practices**
The judiciary in the criminal justice system; structure of American court system; prosecution; right to counsel; pre-trial release; grand juries; adjudication process. Types and rules of evidence and sentencing. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1317/ CRIJ 1313* Juvenile Justice System**
A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1322/ CRIJ 1301* Introduction to Criminal Justice**
History and philosophy of criminal justice and ethical considerations; crime defined; its nature and impact; overview of criminal justice system; law enforcement court system; prosecution and defense. Trial process; corrections. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1325 Criminology**
Current theories and empirical research pertaining to crime and criminal behavior and its causes, methods of prevention, systems of punishment and rehabilitation. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1327 /CRIJ 1310* Fundamentals of Criminal Law**
A study of the nature of criminal law; philosophical and historical development; major definitions and concepts; classification of crime; elements of crimes and penalties, using Texas statutes as illustrations; criminal responsibility. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1342/ CRIJ 2314* Criminal Investigation**
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1347 Police Organization and Administration**
Study of the principles of organizational structure and administration. Topics include theories of management, motivation, and leadership, Focus on a quality approach toward police community interaction. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1348 Ethics in Criminal Justice**
Ethical philosophies and issues pertaining to the various professions in the criminal justice system. Includes ethical issues emanating from constitutional conflict with public protection and individual rights, civil liberties and correctional policies. Three lecture hours per week.
Credit: 3 semester hours

**CJSA 1359/ CRIJ 2328* Police Systems & Practices**
The police profession; organization of law enforcement systems. The police role; police discretion; ethics; police-community interaction; current and future issues. Three lecture hours per week.
Credit: 3 semester hours
CJSA 1393 Special Topics in Criminal Justice
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. Topics may include but are not limited to Spanish for Law Enforcement and Forensic Psychology. Three lecture hours per week.
Credit: 3 semester hours

CJSA 2300 /CRIJ 2323* Legal Aspects of Law Enforcement
Police authority; responsibilities; constitutional constraints; laws of arrest, search and seizure; police liability. Three lecture hours per week.
Credit: 3 semester hours

CJSA 2331 Child Abuse, Prevention and Investigation
Forms of child abuse and neglect and the traits of typical abusers. Includes strategies to investigate abuse, interview victims and witnesses, document evidence in accordance with state law and conduct case studies. Three lecture hours per week.
Credit: 3 semester hours

CJSA 2334 Contemporary Issues in Criminal Justice
A series of lectures and class participation exercises presenting selected topics currently confronting criminal justice personnel and the public they serve. Three lecture hours per week.
Credit: 3 semester hours

CJSA 2335 First Line Police Supervision
Development of supervision techniques and practices for the first-line supervisor and development of desirable traits of a supervisor with emphasis on individual and group leadership. Special emphasis on the balance between the individual and the organization. Three lecture hours per week.
Credit: 3 semester hours

CJSA 2388 Internship-Criminal Justice/Safety Studies
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. Zero lecture hours, zero lab hours, ten external hours per week.
Credit: 3 semester hours

Dance
See Kinesiology for a complete listing of courses.

Developmental Education
DESS 0101 Student Success
Psychology of learning and success. Examines factors that underlie learning, success, and personal development in higher education. Topics covered include information processing, memory, strategic learning, self-regulation, goal setting, motivation, educational and career planning, and learning styles. Techniques of study such as time management, listening and note taking, text marking, library and research skills, preparing for examinations, and utilizing learning resources are covered. Includes courses in college orientation and developments of students’ academic skills that apply to all disciplines. One lecture hour per week. 
Credit: 1 semester hours

Developmental English

**DERW 0302 Developmental Integrated Reading and Writing**
Integration of critical reading and academic writing skills. Will not count toward a degree. Three lecture hours per week. 
Credit: 3 semester hours

**DERW 0303 Developmental Integrated Reading and Writing**
Integration of critical reading and academic writing skills. Successful completion of this course fulfills TSI requirements for reading and/or writing. Will not count toward a degree. Three lecture hours per week. 
Credit: 3 semester hours

**DESL 0301 Developmental ESL Oral Communication**
Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. Will not count toward a degree. Three lecture hours per week. 
Credit: 3 semester hours

**DENG 0311 Developmental Composition for Non-Native Speakers**
Principles and techniques of composition and reading. Open only to non-native speakers. Will not count toward a degree. Does not necessarily result in transferable credit. Three lecture hours per week. 
Credit: 3 semester hours

Developmental Mathematics

**DMAT 0313 Basic Developmental STEM Algebra**
This course is intended for STEM majors only with a TSI score below the requirements for placement into the College Algebra co-requisite (DMAT 0314 + MATH 1314). Topics include order of operations, solving and graphing linear equations, operations with polynomials, algebraic expressions, factoring, exponents, radicals, rational expressions, and rational exponents. The course is designed for students who are not well grounded in the fundamentals of high school algebra and to prepare them for College Algebra. This is a nontransferable course and will not count towards any degree. Three lecture hours per week. 
Credit: 3 semester hours 
Prerequisite: Test placement and a verified STEM major.
DMAT 0314 Co-requisite for College Algebra
A support course for MATH 1314; includes supplemental instruction, supervision of assignments for MATH 1314, and various instructional interventions as needed. Students taking this course must also be registered for MATH 1314 during the same term. This is a nontransferable course and will not count towards any degree. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: Test placement

DMAT 0332 Co-requisite for Contemporary Mathematics
A support course for MATH 1332; includes supplemental instruction, supervision of assignments for MATH 1332, and various instructional interventions as needed. Students taking this course must also be registered for MATH 1332 during the same term. This is a nontransferable course and will not count towards any degree. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: Test placement

DMAT 0342 Co-requisite for Elementary Statistics
A support course for MATH 1342; includes supplemental instruction, supervision of assignments for MATH 1342, and various instructional interventions as needed. Students taking this course must also be registered for MATH 1342 during the same term. This is a nontransferable course and will not count towards any degree. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: Test placement

Drama

DRAM 1120 Theater Practicum I*
Practicum in theater open to all students with an emphasis on technique and procedures with experience gained in play productions.
Three lab hours.
Credit: 1 semester hour
Prerequisite: Theater scholarship or permission of the instructor

DRAM 1121 Theater Practicum II*
Practicum in theater open to all students with an emphasis on technique and procedures with experience gained in play productions. Three lab hours.
Credit: 1 semester hour
Prerequisite: Theater scholarship or permission of the instructor

DRAM 1310 Theater Appreciation*
Survey of all phases of theater including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required. Three lecture hours.
Credit: 3 semester hours
DRAM 1330 Stagecraft I*
Study and application of the methods and components of theatrical production that may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound, and theatrical management. Three lecture hours, three lab hours per week.
Credit: 3 semester hours

DRAM 1341 Stage Makeup*
Design and execution of makeup for the stage performer. Includes discussion of makeup principles and practical experience of makeup application. Three lecture hours, three lab hours per week.
Credit: 3 semester hours

DRAM 1351 Acting I*
An introduction to the fundamental principles and tools of acting as used in auditions, rehearsals, and performances. This may include ensemble performing, character and script analysis, and basic theater terminology. This exploration will emphasize the development of the actor’s instrument: voice, body and imagination. Three lecture hours, three lab hours per week.
Credit: 3 semester hours

DRAM 1352 Acting II*
Exploration and further training within the basic principles and tools of acting, including an emphasis on critical analysis of oneself and others. The tools include ensemble performing, character and script analysis, and basic theater terminology. This will continue the exploration of the development of the actor’s instrument: voice, body and imagination. Three lecture hours, three lab hours per week.
Credit: 3 semester hours
Prerequisite: DRAM 1351

DRAM 2120 Theater Practicum III*
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Six lab hours per week.
Credit: 1 semester hour
Prerequisite: Theater scholarship or permission of the instructor

DRAM 2121 Theater Practicum IV*
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Six lab hours per week.
Credit: 1 semester hours
Prerequisite: Theater scholarship or permission of the instructor

DRAM 2331 Stagecraft II*
Continued study and application of methods and components of theatrical production that may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management. Three lecture hours, three lab hours per week.
Credit: 3 semester hours
Prerequisite: DRAM 1330

**DRAM 2336 Voice for the Actor***
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor’s vocal instrument.
Credit: 3 semester hours

**DRAM 2366 Film Appreciation***
Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema’s impact on and reflection of society. Three lecture hours per week.
Credit: 3 semester hours

**Economics**

**ECON 1301 Introduction to Economics***
A survey of microeconomic and macroeconomic principles for non-business majors. Microeconomic topics will include supply and demand, consumer behavior, price and output decisions by firms under various market structures, factor markets, market failures, international trade, and exchange rates. Macroeconomic topics will include national income, unemployment, inflation, business cycles, aggregate supply and demand, monetary and fiscal policy, and economic growth. (This course is designed for non-business, economics, or finance majors and will not replace ECON 2301 or ECON 2302. Three lecture hours per week
Credit: 3 semester hours

**ECON 2301 Principles of Macroeconomics***
An analysis of the economy as a whole including measurement and determination of Aggregate Demand and Aggregate Supply, national income, inflation, and unemployment. Other topics include international trade, economic growth, business cycles, and fiscal policy and monetary policy. Three lecture hours per week.
Credit: 3 semester hours

**ECON 2302 Principles of Microeconomics***
Analysis of the behavior of individual economic agents, including consumer behavior and demand, producer behavior and supply, price and output decisions by firms under various market structures, factor markets, market failures, and international trade. Three lecture hours per week.
Credit: 3 semester hours

**Education**

**EDUC 1100 Learning Framework***
A study of the: research and theory in the psychology of learning, cognition, and motivation; factors that impact learning, and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. One lecture hour per week
Credit: 1 semester hour

**EDUC 1300 Learning Framework***

A study of the: research and theory in the psychology of learning, cognition, and motivation; factors that impact learning, and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. Three lecture hours per week.
Credit: 3 semester hours

**EDUC 1301 Introduction to the Teaching Profession***

An enriched, integrated pre-service course and content experience that provides active recruitment and institutional support of students interested in a teaching career, especially in high need fields. The course provides students with opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations and provides students with support from college and school faculty, preferably in small cohort groups, for the purpose of introduction to and analysis of the culture of schooling and classrooms. Course content should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; and the course must include a minimum of 16 contact hours of field experience in P-12 classrooms. Three lecture hours; one lab hour per week
Credit: 3 semester hours
Prerequisites: Sophomore standing; Pass TSI; GPA 2.75

**EDUC 2301 Introduction to Special Populations***

An enriched, integrated pre-service course and content experience that provides an overview of schooling 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 provides students with opportunities to participate in early field observations of P-12 special populations and should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Must include a minimum of 16 contact hours
of field experience in P-12 classrooms with special populations. Three lecture hours; one lab hour per week.
Credit: 3 semester hours
Prerequisite: EDUC 1301

Engineering

**ENGR 1201 Introduction to Engineering**
An introduction to the engineering profession with emphasis on technical communication and team-based engineering design.
Pre-requisite: Math 1314 College Algebra or equivalent

**ENGR 2301 Engineering Mechanics – Statics**
Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia.
Pre-requisite: PHYS 2425 University Physics I
Pre/Co-requisite: MATH Calculus II

**ENGR 2302 Engineering Mechanics – Dynamics**
Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton’s Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.
Pre-requisite: ENGR 2301 Engineering Mechanics - Statics

English

**ENGL 1301 Composition I***
Intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individual and collaboratively. Emphasis on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus on writing the academic essay as a vehicle for learning, communicating, and critical analysis. Credit: 3 semester hours
Prerequisite: Must be college-ready in reading and writing.

**ENGL 1302 Composition II***
Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions.
Prerequisite: ENGL 1301

**ENGL 2307 Creative Writing I***
Practical experience in the techniques of imaginative writing. May include fiction, nonfiction, poetry, or drama. Three lecture hours per week.
Credit: 3 semester hours

**ENGL 2311 Technical & Business Writing***
Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and descriptions of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents.
Prerequisite: Must be college-ready in reading & writing

**ENGL 2321 British Literature (single-semester course)***
A survey of the development of British literature from the Anglo-Saxon period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.
Prerequisites: ENGL 1301, ENGL 1302
“To avoid duplicate credit, students who take ENG 2321 should not take ENG 2322 or 2323.”

**ENGL 2322 British Literature I***
A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2323 British Literature II***
A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2326 American Literature (single-semester course)***
A survey of American literature from the period of exploration and settlement to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.
Prerequisites: ENGL 1301, ENGL 1302
“To avoid duplicate credit, students who take ENG 2326 should not take ENG 2327 or 2328.”

**ENGL 2327 American Literature I***
A survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2328 American Literature II***
A survey of American literature from the civil war to the present. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2331 World Literature (single-semester course)***
A survey of world literature from the ancient world to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.
Prerequisites: ENGL 1301, ENGL 1302
“To avoid duplicate credit, students who take ENG 2331 should not take ENG 2332 or 2333.”

**ENGL 2332 World Literature I***
A survey of world literature from the ancient world through the sixteenth century. Students will study works of prose, poetry, drama, and fiction in relationship to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2333 World Literature II***
A survey of world literature from the seventeenth century to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2341 Forms of Literature (single-semester course)***
The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film.
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2342 Forms of Literature I***
The study of one or more literary genres, including but not limited to poetry, fiction, drama, and film. For repeatability purposes, students who take ENGL 2342 should not also take ENGL 2341.
Three lecture hours per week.
Credit: 3 semester hours
Prerequisites: ENGL 1301, ENGL 1302

**ENGL 2389 Academic Cooperative***
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 English language and literature. Three lecture hours per week.
CREDIT: 3 SEMESTER HOURS
PREREQUISITES: ENGL 1301, ENGL 1302

Fire Science

FIRS 1301 Firefighter Certification I
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 Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

FIRS 1313 Firefighter Certification III
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. Three lecture hours, two lab hours per week.
Credit: 3 semester credit hours

FIRS 1319 Firefighter Certification IV
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. Two lecture hours, two lab hours per week.
Credit: 3 semester credit hours

FIRS 1323 Firefighter Certification V
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, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Two lecture hours, two lab hours per week.
Credit: 3 semester credit hours

FIRS 1329 Firefighter Certification VI
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. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

FIRS 1407 Firefighter Certification II
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. Three lecture hours, two lab hours per week.
Credit: 4 semester credit hours

**FIRS 1433 Firefighter Certification VII**
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. Three lecture hours, two lab hours per week.
Credit: 4 semester hours

**EMSP 2237 Emergency Procedures**
Instruction in a laboratory environment concentrating on practical medical skills and critical thinking abilities. Topics include a variety of skills appropriate to the student's training level. Required verifications of specific skills may be included. Two lecture hours, one lab hour per week.
Credit: 2 semester hours

**EMSP 1501 Emergency Medical Technician – Basic**
Preparation for certification as an Emergency Medical Technician (EMT) - Basic. Includes all the skills necessary to provide emergency medical care at a basic life support level with an emergency service or other specialized services. Three lecture hours, eight lab hours per week.
Credit: 5 semester hours

**EMSP 1261 Clinical – Emergency Medical – Technology/Technician**
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. Seven clinical hours per week.
Credit: 2 semester credit hours

**Fire Technology**

**FIRS 2344 Driver/Operator-Pumper**
Meets curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Driver/Operator-Pumper. Three lecture hours, one lab hour per week.
Credit: 3 semester hours

**FIRT 1303 Fire and Arson Investigator I**
Basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1307 Fire Prevention Codes and Inspection**
Local building and fire prevention codes. Fire prevention inspections, practices, and procedures. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1309 Fire Administration I**
Introduction to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1315 Hazardous Materials I**
The chemical characteristics and behavior of various materials. Storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1319 Firefighter Health and Safety**
Firefighter occupational safety and health in emergency and non-emergency situations. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1327 Building Construction in the Fire Service**
Components of building construction that relate to life safety. Includes relationship of construction elements and building design impacting fire spread in structures. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1329 Building Codes and Construction**
Examination of building codes and requirements, construction types, and building materials. Includes walls, floorings, foundations, and various roof types and the associated dangers of each. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1333 Fire Chemistry I**
Chemical nature and properties of inorganic compounds as related to the fire service. Fundamental laws of chemistry, states of matter, gas laws, chemical bonding, and thermodynamics. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1338 Fire Protection Systems**
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. Three lecture hours per week.
Credit: 3 semester hours

**FIRT 1342 Fire Officer I**
Requirements for Fire Officer I certification as established by the Texas Commission on Fire Protection. Three lecture hours per week.
Credit: 3 semester hours


**FIRT 1343 Fire Officer II**
Requirements for Fire Officer II certification as established by the Texas Commission on Fire Protection. Three lecture hours per week. Credit: 3 semester hours

**FIRT 1349 Fire Administration II**
In-depth study of fire service management as pertaining to budgetary requirements, administration, organization of divisions within the fire service, and relationships between the fire service and outside agencies. Three lecture hours per week. Credit: 3 semester hours

**FIRT 1353 Legal Aspects of Fire Protection**
Study of the rights, duties, liability concerns, and responsibilities of public fire protection agencies while performing assigned duties. Three lecture hours per week. Credit: 3 semester hours

**FIRT 1408 Fire Inspector I**
Fire inspection including rules, codes, and field inspection practices to meet certification requirements of the Texas Commission on Fire Protection. Two lecture hours per week, four laboratory hours per week. Credit: 3 semester hours

**FIRT 2305 Fire Instructor I**
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 Texas Commission on Fire Protection requirements for Fire Instructor I certification. Three lecture hours per week. Credit: 3 semester hours

**FIRT 2307 Fire Instructor II**
Development of individual lesson plans for a specific topic including learning objectives, instructional aids, and evaluation instruments. Includes techniques for supervision and coordination of activities of other instructors to meet Texas Commission on Fire Protection requirements for Fire Instructor II certification. Three lecture hours per week. Credit: 3 semester hours

**FIRT 2309 Firefighter Strategies and Tactics I**
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 manpower and equipment to mitigate the emergency. Three lecture hours per week. Credit: 3 semester hours

**French**

**FREN 1411 Beginning French I**
*
Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Three lecture hours, one lab hour per week. Credit: 4 semester hours

**FREN 1412 Beginning French II***
Fundamental skills in listening, comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Three lecture hours, one lab hour per week. Credit: 4 semester hours
Prerequisite: FREN 1411

**FREN 2311 Intermediate French I***
Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: FREN 1412 or advanced standing by examination

**FREN 2312 Intermediate French II***
Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: FREN 2311

**Geology**

**GEOL 1403 Physical Geology***
Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours

**GEOL 1404 Historical Geology***
A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours
Prerequisite: GEOL 1403

**German**

**GERM 1411 Beginning German I***
Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures and culture. Three lecture hours, one lab hour per week.
Credit: 4 semester hours
**GERM 1412 Beginning German II***
Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Three lecture hours, one lab hour per week.
Credit: 4 semester hours
Prerequisite: GERM 1411

**GERM 2311 Intermediate German I***
Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Three lecture hours.
Credit: 3 semester hours
Prerequisite: GERM 1412 or advanced standing by examination

**GERM 2312 Intermediate German II***
Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Three lecture hours.
Credit: 3 semester hours
Prerequisite: GERM 2311 or advanced standing by examination

**Government**

**GOVT 2305 Federal Government***
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. Three lecture hours per week.
Credit: 3 semester hours

**GOVT 2306 Texas Government***
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. Three lecture hours per week.
Credit: 3 semester hours

**History**

**HIST 1301 United States History I*** *(United States History to Reconstruction)*
A survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil and human rights, technological change, economic change, immigration and migration, and creation of the federal government. Three lecture hours per week.
Credit: 3 semester hours
HIST 1302 United States History II* (United States History from Reconstruction)
A survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy. Three lecture hours per week.
Credit: 3 semester hours

HIST 2301 Texas History*
A survey of the political, social, economic, cultural, and intellectual history of Texas from the pre-Columbian era to the present. Themes that may be addressed in Texas History include: Spanish colonization and Spanish Texas; Mexican Texas; the Republic of Texas; statehood and secession; oil, industrialization, and urbanization; civil rights; and modern Texas. Three lecture hours per week.
Credit: 3 semester hours

HIST 2321 World Civilizations I*
A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the emergence of human cultures through the 15th century. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include the emergence of early societies, the rise of civilizations, the development of political and legal systems, religion and philosophy, economic systems and trans-regional networks of exchange. The course emphasizes the development, interaction and impact of global exchange. Three lecture hours per week.
Credit: 3 semester hours

HIST 2322 World Civilizations II*
A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the 15th century to the present. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include maritime exploration and transoceanic empires, nation/state formation and industrialization, imperialism, global conflicts and resolutions, and global economic integration. The course emphasizes the development, interaction and impact of global exchange. Three lecture hours per week.
Credit: 3 semester hours

Humanities

HUMA 1315 Fine Arts Appreciation*
This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama, and dance) and the ways in which they express the values of cultures and human experience.
Three lecture hours per week.
Credit: 3 semester hours

**HUMA 2323 World Cultures***
This course is a general study of diverse world cultures. Topics include cultural practices, social structures, religions, arts, and languages. Three lecture hours per week.
Credit: 3 semester hours

**Industrial Technology**

**CNBT 1416 Construction Technology I**
Introduction to site preparation foundations and form work, safety, tools, and equipment. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

**CETT 1402 Electricity Principles**
Principles of Electricity including proper use of test equipment, AC and DC circuits, and component theory and operation. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

**DFTG 1409 Basic Computer Aided Drafting**
An introduction to computer aided drafting. Emphasis is placed on set up; 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. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

**ELPT 1325 National Electric Code I**
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. Two hours lecture, four hours lab per week.
Credit: 3 semester hours

**ELPT 1421 Introduction to Electrical Safety and Tools**
Safety rules and regulations. Includes the selection, inspection, use, and maintenance of common tools for electricians. Two hours lecture, four hours lab per week.
Credit: 4 semester hours

**ELPT 1429 Residential Wiring**
Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures. Two hours lecture, four hours lab per week.
Credit: 4 semester hours

**ELPT 1445 Commercial Wiring**
COURSE DESCRIPTIONS

Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. Two hours lecture, four hours lab per week. Credit: 4 semester hours

**ELPT 2419 Programmable Logic Controllers**
Fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls. Two hours lecture, four hours lab per week. Credit: 4 semester hours

**ENTC 1447 Safety and Ergonomics**
Occupational Safety and Health Administration (OSHA) safety guidelines including electrical, chemical, and hazardous material safety. Ergonomic considerations to include repetitive motion, plant layout, and machine design. Industrial safety awareness, accident cost and prevention, and workman’s compensation issues. Three lecture hours per week. Credit: 3 semester hours

**HART 1407 Refrigeration Principles**
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigerant components and safety. Two hours lecture, four lab hours per week. Credit: 4 semester hours

**HART 1441 Residential Air Conditioning**
A study of components, applications, and installation of mechanical air conditioning systems including operating condition, troubleshooting, repair, and charging of air conditioning systems. Two hours lecture, four hours lab per week. Credit: 4 semester hours

**HART 2436 Air Conditioning Troubleshooting**
An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests. Two hours lecture, four hours lab per week. Credit: 4 semester hours
Prerequisite: HART 2441 or approval of instructor

**HART 2438 Air Conditioning Installation and Start Up**
A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing. Two hours lecture, four hours lab per week. Credit: 4 semester hours
Prerequisite: HART 1407 or approval of instructor

**HART 2441 Commercial Air Conditioning**
A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less. Two hours lecture, four lab hours per week.
HYDR 1445 Hydraulics and Pneumatics
Fundamentals of hydraulics and types of hydraulic pumps, cylinders, valves, motors, and related systems including operations, maintenance, and system analysis. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite: HART 1407

IEIR 1410 Motor Controls
General principles and fundamentals of electrical controls and control components including starters, troubleshooting techniques, various protective devices, schematics, and diagrams. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite CETT 1402

PFPB 1421 Plumbing Maintenance and Repair
Instruction in the practices and procedures employed by a plumber in the usual and unusual service work in the field of residential plumbing repairs including public relations. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

SEST 1441 Boiler-Operations, Installation & Maintenance
Safe installation, operation and maintenance procedures for boilers including total boiler analysis for maximum performance and efficiency of each system. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

WDWK 1313 Cabinet Making
Design and construction of base cabinets and wall cabinets for kitchens and bathrooms. Emphasis on the safe use of portable and stationary power tools. Finishing techniques include proper sanding, sealing, staining, and finishing techniques. One lecture hour, four lab hours per week.
Credit: 3 semester hours

Kinesiology

KINE 1101 Physical Training for Freshmen
Instruction and participation in physical and recreational activities including: basketball, badminton, baseball, bowling, football, golf, racquetball, softball, volleyball, rodeo, athletic training, or physical fitness. Three lab hours each week.
Credit: 1 semester hour

KINE 1102 Physical Training for Freshmen
A continuation of KINE 1101. Three lab hours each week.
Credit: 1 semester hour

KINE 1145 Recreational Dance
Instruction and participation in folk, social, tap, or other dance forms. Enrollment limited to the Wrangler Belles. May be repeated for credit. Three lab hours per week.
Credit: 1 semester hour

**KINE 1301 Foundations of Kinesiology***
The purpose of this course is to provide students with an introduction to human movement that includes the historical development of physical education, exercise science, and sport. This course offers students both an introduction to the knowledge base, as well as information on expanding career opportunities. Three lecture hours per week.
Credit: 3 semester hours

**KINE 1304 Personal/Community Health***
This course provides an introduction to the fundamentals, concepts, strategies, applications and contemporary trends related to understanding personal and/or community health issues. This course also focuses on empowering various populations with the ability to practice healthy living, promote healthy lifestyles, and enhance individual well-being. Three lecture hours per week.
Credit: 3 semester hours

**KINE 1306 First Aid***
Instruction in and practice for emergency care. Designed to enable students to recognize and avoid hazards within their environment, to render intelligent assistance in case of accident or sudden illness, and to develop skills necessary for the immediate and temporary care of the victim. Successful completion of the course may enable the student to receive a certificate from a nationally recognized agency. Three lecture hours per week.
Credit: 3 semester hours

**KINE 1308 Sports Officiating***
The purpose of this course is to study officiating requirements for sports and games with an emphasis on mechanics, rule interpretation, and enforcement. Three lecture hours per week.
Credit: 3 semester hours

**KINE 1321 Coaching /Sports/Athletics***
Study of the history, theories, philosophies, rules, and terminology of competitive sports. Includes coaching techniques. Three lecture hours per week.
Credit: 3 semester hours

**KINE 1336 Introduction to Recreation***
Fundamental theory and concepts of college recreational activities with emphasis on programs, planning, and leadership. Three lecture hours per week.
Credit: 3 semester hour

**KINE 1338 Concepts of Physical Fitness***
This course is designed to familiarize students with knowledge, understanding, and values of health related fitness and its influence on the quality of life emphasizing the development and implementation of fitness programs. Three lecture hours per week.
Credit: 3 semester hours

**KINE 1346 Drug Use and Abuse***
Study of the use and abuse of drugs in today’s society. Emphasizes the physiological, sociological and psychological factors. Three lecture hours per week.
Credit: 3 semester hour

**KINE 2101 Physical Training for Sophomores**
Instruction and participation in physical and recreational activities including: basketball, badminton, baseball, bowling, football, golf, racquetball, softball, volleyball, rodeo, athletic training, or physical fitness. Three lab hours each week.
Credit: 1 semester hour

**KINE 2102 Physical Training for Sophomores**
A continuation of Kinesiology 2101. Three lab hours per week.
Credit: 1 semester hour

**KINE 2145 Recreational Dance**
Instruction and participation in folk, social, tap, or other dance forms. Enrollment limited to the Wrangler Belles. May be repeated for credit. Three lab hours per week.
Credit: 1 semester hour

**KINE 2356 Care and Prevention of Athletic Injuries***
Prevention and care of athletic injuries with emphasis on qualities of a good athletic trainer, avoiding accidents and injuries, recognizing signs and symptoms of specific sports injuries and conditions, immediate and long-term care of injuries, and administration procedures in athletic training. Three lecture hours per week.
Credit: 3 semester hours

**Mathematics**

**MATH 1314 College Algebra***
In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included; may not apply toward a major in math. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics and High School Algebra I & II

**MATH 1316 Plane Trigonometry***
In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar
coordinates and parametric equations may be included; may not apply toward a major in math. Three lecture hours per week. Credit: 3 semester hours
Course not offered every year.
Prerequisite: Meet TSI college-readiness standard for Mathematics and High School Algebra I & II or MATH 1314 or instructor consent.

**MATH 1324 Mathematics for Business and Social Sciences (Finite Mathematics)**
The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. Three lecture hours per week. Credit: 3 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics and High School Algebra I & II or MATH 1314 or instructor consent.

**MATH 1325 Calculus for Business and Social Sciences**
This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413, Calculus I. Three lecture hours per week. Credit: 3 semester hours
Prerequisite: MATH 1324 or MATH 1314

**MATH 1332 Contemporary Mathematics (Quantitative Reasoning)**
Intended for Non STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Additional topics may be covered. This course does not apply toward the Associate of Science Degree. Three lecture hours per week. Credit: 3 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics

**MATH 1342 Elementary Statistics**
Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Utilization of appropriate technology is required. This course may not apply toward a major in math. Three lecture hours per week. Credit: 3 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics and High School Algebra I & II

**MATH 1350 Mathematics for Teachers I**
This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. Three lecture hours per week. Credit: 3 semester hours
Prerequisite: MATH 1314 or equivalent

**MATH 1351 Mathematics for Teachers II***
This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability, and statistics with an emphasis on problem solving and critical thinking. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: MATH 1314 College Algebra (3SCH version) or equivalent

**MATH 2412 Pre-calculus***
In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions. May include topics from analytic geometry; may not apply toward a major in math. Four lecture hours per week.
Credit: 4 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics and High School Algebra I & II or MATH 1314

**MATH 2413 Calculus I with Analytical Geometry***
Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. Four lecture hours per week.
Credit: 4 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics and High School Algebra I, II, & Pre-calculus or MATH 1314 and MATH 1316**/2412
**MATH 1316 not offered every year.

**MATH 2414 Calculus II with Analytical Geometry***
Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; numerical methods; indeterminate forms; improper integrals; sequences and series. Four lecture hours per week.
Credit: 4 semester hours
Prerequisite: MATH 2413

**MATH 2415 Calculus III with Analytical Geometry***
Multivariable calculus, including vectors and vector-valued functions, partial differentiation, gradient, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green’s Theorem, the Divergence Theorem, and Stokes’ Theorem. Four lecture hours per week.
Credit: 4 semester hours
Prerequisite: MATH 2414
Medical Assisting

FMLD 1345 Life Span Growth and Development
A study of the interrelationship of physical, emotional, social, and mental factors of growth and development throughout the life span. Only offered in the spring semester. Three lecture hours per week.
Credit: 3 semester hours

HITT 1313 Coding and Insurance
An overview of skills and knowledge in ICD and CPT coding and claims forms for reimbursement of medical services. Three lecture hours per week.
Credit: 3 semester hours
Spring Semester
Pre-requisite: MDCA 1313 or MCDA 1409

MDCA 1254 Medical Assisting Credentialing Exam Review
A preparation for one of the National Commission Certifying Agencies (NCCA) recognized credentialing exams. Two lecture hours per week.
Credit: 2 semester hours

MDCA 1305 Medical Law and Ethics
Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients and medical assistants in ambulatory care settings. Three lecture hours per week.
Credit: 3 semester hours

MDCA 1310 Medical Assistant Interpersonal and Communications and Skills
Emphasis on the application of basic psychological principles and the study of behavior as they apply to special populations. Topics include procedures for self-understanding and social adaptability in interpersonal communication with patients and co-workers in an ambulatory care setting. Three lecture hours per week.
Credit: 3 semester hours

MDCA 1313 Medical Terminology
A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms. Three lecture hours per week.
Credit: 3 semester hours

MDCA 1321 Administrative Procedures
Medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal communications, bookkeeping tasks, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office. Only offered in the spring semester. Two lecture hours, two lab hours per week.
Credit: 3 semester hours
**MDCA 1343 Medical Insurance**
Emphasizes medical office coding for payment and reimbursement by patient or third party payers for ambulatory care settings. Three lecture hours per week.
Credit: 3 semester hours

**MDCA 1409 Anatomy and Physiology for Medical Assistants**
Emphasis on structure and functions of human cells, tissues, organs, and systems, with overview of common pathophysiology. Three lecture hours, two hours lab per week.
Credit: 4 semester hours

**MDCA 1417 Procedures in a Clinical Setting**
Emphasis on patient assessment, examination, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, asepsis, office clinical procedures and other treatments as appropriate for ambulatory care settings. Two lecture hours, four lab hours per week. Only offered in the spring Semester.
Credit: 4 semester hours

**MDCA 1452 Medical Assistant Laboratory Procedures**
Application of governmental health care guidelines. Includes specimen collection and handling, quality assurance, and quality control in performance of Clinical Laboratory Improvement Amendments (CLIA)-waived laboratory testing. Two hours lecture, four-hour lab per week.
Credit: 4 semester hours
Pre-Requisite: MDCA 1417

**MDCA 2460 Clinical Medical Assisting**
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills and concepts. Direct supervision is provided by the clinical professional. Must have permission from the Program Director. Twelve clinical hours per week.
Credit: 4 semester hours

**Music**

**MUAP 1117, 1217 Woodwind Instrument***
Individual instruction in flute, oboe, saxophone, clarinet, or bassoon; proficiency examination required of music majors upon entrance; may be repeated for credit. One or two lab hours per week.
Credit: 1 or 2 semester hours

**MUAP 1137, 1237 Brass Instrument***
Individual instruction in trumpet, French horn, trombone, baritone, or tuba; proficiency examination required of music majors upon entrance; may be repeated for credit. One or two lab hours per week.
Credit: 1 or 2 semester hours

**MUAP 1157, 1257 Percussion***
Individual instruction in snare drum, timpani, bells, or marimba; proficiency examination required of music majors upon entrance. One or two lab hours per week.
Credit: 1 or 2 semester hours

**MUAP 1165, 1265 Organ***
Individual instruction; proficiency; proficiency examination required of music majors upon entrance; may be repeated for credit. One or two lab hours per week.
Credit: 1 or 2 semester hours

**MUAP 1169, 1269 Piano***
Individual instruction, proficiency examination required for music majors upon entrance; may be repeated for credit. One or two lab hours per week.
Credit: 1 or 2 semester hours

**MUAP 1181, 1281 Voice***
Individual instruction in singing; proficiency examination required of music majors upon entrance; may be repeated for credit. One or two lab hours per week.
Credit: 1 or 2 semester hours

**MUEN 1121 College Band***
This course consists of marching band during the fall semester and concert band during the spring semester, with all the activities and commitments that are required of a college band. May be repeated for credit. Six lab hours per week.
Credit: 1 semester hour

**MUEN 1131 Jazz Band***
Open to members of the College Band; selection by audition; performs “big band” and jazz as well as contemporary popular music; may be repeated for credit. Three lab hours per week.
Credit: 1 semester hour

**MUEN 1132 Pep Band***
This course consists of a spirit based performance ensemble designed to help promote school spirit and enthusiasm especially at indoor athletic events. The ensemble is also used for promotional opportunities at area activities and assemblies. May be repeated for credit. Three lab hours per week and all home volleyball/basketball games during the school term.
Credit: 1 semester hour

**MUEN 1133 Special Ensembles – Instrumental***
Select instrumental groups; performance includes country, popular, Dixieland, rock, and dramatic music; selection by audition; may be repeated for credit. Three lab hours per week.
Credit: 1 semester hour

**MUEN 1134 Chamber Ensemble***
Meets during the Spring semester. This course consists of rehearsing and performing moderate to advance wind ensemble literature and is designed for the technically and musically proficient band student. May be repeated for credit. Three lab hours per week.
Credit: 1 semester hour
Pre-requisite: Audition Only

**MUEN 1141 Cisco College Singers***
A Vocal Ensemble of mixed voices; open to all students by audition. Strongly recommended for music majors and minors; may be repeated for credit. Three lab hours per week.
Credit: 1 semester hour

**MUEN 1151 Vocal Ensemble***
A select chamber vocal ensemble. Repertoire may include chamber music, madrigals, show Vocal Ensemble numbers. Students must be prepared for frequent performances and touring, including dance. May be repeated for credit. Two lab hours per week.
Credit: 1 semester hour
Prerequisite: Audition and instructor permission

**MUEN 1192 Guitar Class I***
Class instruction in the fundamental techniques of playing and teaching guitar.
Credit: 1 semester hour
Prerequisite: Must have guitar to bring to class

**MUEN 1193 Guitar Class II***
Class instruction in the fundamental techniques of playing and teaching guitar.
Credit: 1 semester hour
Prerequisite: Must have guitar to bring to class

**MUEN 1221 College Band***
This course consists of marching band during the fall semester with all the activities and commitments that are required of a college band. Kinesiology credit granted for marching band. May be repeated for credit. Six lecture hours, three lab hours per week.
Credit: 2 semester hours

**MUEN 1251 Vocal Ensemble***
A select chamber vocal ensemble. Repertoire may include chamber music, madrigals, show Vocal Ensemble numbers. Students must be prepared for frequent performances and touring, including dance. May be repeated for credit. Three lab hours per week.
Credit: 2 semester hours
Prerequisite: Audition and instructor permission

**MUSI 1116 Elementary Sight-singing and Aural Skills I***
Singing tonal music in treble, bass, alto, and tenor clefs. Aural study, including dictation of rhythm, melody, and diatonic harmony. Beginning keyboard harmony. Two lab hours per week.
MUSI 1117 Elementary Sight-singing and Aural Skills II*
Continued singing tonal music in treble, bass, alto, and tenor clefs. Aural study, including dictation of rhythm, melody, and diatonic harmony. Harmonic progressions at the keyboard. Two lab hours per week.
Credit: 1 semester hour
Co-requisite: MUSI 1312

MUSI 1306 Music Appreciation*
Understanding music through the study of cultural periods, major composers, and musical elements. Illustrated with audio recordings and live performances. Three lecture hours per week.
Credit: 3 semester hours

MUSI 1307 Music Literature*
Survey of the principal musical forms and cultural periods as illustrated in the literature of major composers. Three lecture hours per week.
Credit: 3 semester hours

MUSI 1311 Music Theory I*
Analysis and writing of tonal melody and diatonic harmony up to and including the chords. Analysis and writing of small compositional forms. Correlated study at the keyboard. Correlates with MUSI 1116, Elementary Sight-singing and Aural Skills. Three lecture/lab hours per week.
Credit: 3 semester hours
Co-requisite: MUSI 1116

MUSI 1312 Music Theory II*
Continued analysis and writing of tonal melody and diatonic harmony up to and including the chords. Analysis and writing of small compositional forms. Correlated study at the keyboard. Correlated with MUSI 1117, Elementary Sight-singing and Aural Skills. Three lecture hours per week.
Credit: 3 semester hours
Co-requisite: MUSI 1117

MUSI 2116 Advanced Sight-singing and Aural Skills I*
Singing more difficult tonal music including modal, ethnic, and 20th century materials. Aural study, including dictation of more complex rhythm, melody chromatic harmony, and extended tertian structures. Two lab hours per week.
Credit: 1 semester hour
Co-requisite: MUSI 2311

MUSI 2117 Advanced Sight-singing and Aural Skills II*
Continuation of singing more difficult tonal music including modal, ethnic, and 20th century materials. Aural study, including dictation of more complex rhythm, melody, chromatic harmony, and extended tertian structures. Two lab hours per week. 
Credit: 1 semester hour
Co-requisite: MUSI 2312

*MUSI 2311 Music Theory III*
Advanced harmony part writing and keyboard analysis and writing of more advanced tonal harmony including chromaticism and extended tertian structures. Introduction to 20th century compositional procedures and survey of the traditional large forms of composition. Correlated study at the keyboard. Correlates with MUSI 2116, Advanced Sight-singing and Aural Skills. Three lecture hours per week. 
Credit: 3 semester hours
Co-requisite: MUSI 2116

*MUSI 2312 Music Theory IV*
Continuation of advanced harmony part writing and keyboard analysis and writing of more advanced tonal harmony including chromaticism and extended tertian structures. Introduction of 20th century compositional procedures and survey of the traditional large forms of composition. Correlated study at the keyboard. Correlates with MUSI 2117, Advanced Sight-singing and Aural Skills. Three lecture hours per week. 
Credit Hours: 3 semester hours
Co-requisite: MUSI 2117

Nursing

*HPRS 2301 Pathophysiology*
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. Credit: 3

*HPRS 2332 Health Care Communications*
Methods of communication with clients, client support groups, health care professionals, and external agencies. 
Credit Hours: 3

*NURA 1301 Nurse Aide for Health Care*
Knowledge, skills, and abilities essential to provide basic care to residents of long-term care facilities. Topics include resident’s rights, communication, safety, observation, reporting and assisting residents in maintaining basic comfort and safety. Emphasis on effective interaction with members of the health care team, restorative services, mental health, and social services. 60 lecture hours and 40 clinical hours. Credit Hours: 3

*RNSG 1118--Transition to Professional Nursing Competencies*
Transition to professional nursing competencies in the care of patients throughout the lifespan. Validates proficiency in psychomotor skills and clinical reasoning in the performance of nursing
procedures related to the concepts of: clinical judgment, comfort, elimination, fluid and electrolytes, nutrition, gas exchange, safety, functional ability, immunity, metabolism, mobility, and tissue integrity. Includes health assessment and medication administration. This course lends itself to a concept-based approach. One lecture hour, one laboratory hour per week. 
Credit Hours: 1
Co-Requisites: RNSG 1128, 1361, 1424, 1331

**RNSG 1128—Introduction to Health Care concepts**
An introduction to concept-based learning with emphasis on selected pathophysiological concepts with nursing applications. Concepts include acid-base balance, fluid and electrolytes, immunity, gas exchange, perfusion, metabolism, coping, and tissue integrity. This course lends itself to a concept-based approach. One lecture hour per week. 
Credit Hours: 1
Co-Requisites: RNSG 1118, 1125, 1361, 1424, 1331

**RNSG 1137—Professional Nursing Concepts III**
Application of professional nursing concepts and exemplars within the professional nursing roles. Utilizes concepts of clinical judgment, ethical-legal, evidenced-based practice, patient-centered care, professionalism, safety, teamwork and collaboration. Introduces the concepts of quality improvement, health information technology, and health care organizations. Incorporates concepts into role development of the professional nurse. This course lends itself to a concept-based approach. One lecture hour per week. 
Credit Hours: 1
Co-Requisites: RNSG 1538, 2360

**RNSG 1209—Introduction to Nursing**
Overview of nursing and the role of the professional nurse as provider in patient-centered care, patient safety advocate, member of health care team, and member of the profession. Content includes knowledge, judgement, skills and professional values with a legal/ethical framework. This course lends itself to a blocked approach. Two lecture hours per week. 
Credit Hours: 2

**RNSG 1331—Principles of Clinical Decision-Making**
Examination of selected principles related to the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Emphasis on clinical decision making for clients in medical-surgical settings experiencing health problems involving fluid and electrolytes; perioperative care; pain; respiratory disorders; peripheral vascular disorders; immunologic disorders; and infectious disorders. Discussion of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. Three lecture hours per week. 
Credit Hours: 3
Co-Requisites: RNSG 118, 1128, 1361, 1424

**RNSG 1361—Clinical Transition**
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. Emphasis is placed on application of advanced concepts and skills for development of the associate degree nurse role with care of persons and families experiencing chronic illness/disorders, acute exacerbation of chronic illness, and long-term health care needs in a variety of acute care, long-term and extended care settings, including the home and community. These settings provide opportunities to explore the realities of the level of responsibility and accountability required for the registered nursing practice.

Credit Hours: 3
Clinical Hours: 9 per week
Co-Requisites: RNSG 118, 1128, 1331, 1424

**RNSG 1424—Concept-Based Transition to Professional Nursing Practice**

Integration of previous health care knowledge and skills into the role development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Emphasis is on clinical decision-making for patients and their families. Review of selected health care and professional nursing concepts with application through exemplars. Health care concepts include comfort, diversity, elimination, functional ability, human development, mobility, nutrition, sensory perception, sleep, coping, thermoregulation, tissue integrity, acid-base balance, clotting, cognition, fluid and electrolyte balance, gas exchange, immunity, metabolism, nutrition, grief, and perfusion. Professional nursing concepts include clinical judgment, communication, ethical-legal, evidence-based practice, health promotion, health information technology, patient-centered care, patient education, professionalism, safety, teamwork and collaboration. Introduces concepts of leadership and management. This course lends itself to a concept-based approach. Three weekly lecture hours, two laboratory hours per week.

Credit Hours: 4
Co-Requisites: RNSG 1118, 1128, 1361, 1331

**RNSG 1538—Health Care Concepts III**

In depth coverage of health care concepts with nursing application through selected exemplars. Concepts include cellular regulation, death and dying, diversity, end of life, grief, immunity, interpersonal, intracranial regulation, mood/affect, palliation, and reproduction. Provides continuing opportunities for development of clinical judgment skills. Four lecture hours, four laboratory hours per week.

Credit Hours: 5
Co-Requisites: RNSG 1137, 2360

**RNSG 2230—Professional Nursing Review and Licensure Preparation**

Review of concepts required for licensure examination and entry into the practice of professional nursing. Includes review of application process of National Council Licensure Examination for Registered Nurses (NCLEX-RN) test plan, assessment of knowledge deficits, and remediation. This course lends itself to either a blocked or integrated approach. Two lecture hours per week.

Credit Hours: 2
Co-Requisites: RNSG 2539, 2238, 2361
**RNSG 2238—Professional Nursing Concepts IV**
Integration of professional nursing concepts and exemplars within the professional nursing roles. Synthesizes concepts of clinical judgment, communication, ethical-legal, evidence-based practice, leadership and management, patient-centered care, professionalism, safety, and team/collaboration through exemplars presented in the HCC course. Emphasizes concept of quality improvement and introduces health policy. Incorporates concepts into role development of the professional nurse. This course lends itself to a concept-based approach. Two lecture hours per week.
Credit Hours: 2
Co-Requisites: RNSG 2539, 2361, 2230

**RNSG 2360*, 2361*—CLINICALS ASSOCIATED WITH ALL THREE SEMESTERS OF NURSING CLASSES**
These are health-related work-based learning experiences that enable the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Emphasis is placed on application of advanced concepts and skills for development of the associate degree nurse role with care of person and families experiencing chronic illness/disorders, acute exacerbation of chronic illness, and long-term health care needs in a variety of acute care, long-term and extended care settings, including the home and community. These settings provide opportunities to explore the realities of the level of responsibility and accountability required for registered nursing practice. Nine clinical hours per week.
Credit Hours Each: 3

**RNSG 2539—Health Care Concepts IV**
In depth coverage of advanced health care concepts with nursing application through selected exemplars. Concepts include acid-based, altered thought processes, clotting, diversity, fluid and electrolytes, gas exchange, metabolism, nutrition, perfusion, stress, tissue integrity, and violence. Continuing development of clinical judgment with integration of all program concepts. Four lecture hours, four laboratory hours per week.
Credit Hours: 5
Co-Requisites: RNSG, 2238, 2361, 2230

**VNSG 1160 Clinical I**
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Six clinical hours per week.
Credit: 1 semester hour
Co-requisite: VNSG 1331, 1227, 1304, 1423

**VNSG 1227 Essentials of Medication Administration**
General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement. Two lecture hours and one lab hour per week.
Credit: 2 semester hours
Co-requisite: VNSG 1331, 1304, 1423, 1160

VNSG 1230 Maternal-Neonatal Nursing
A study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Utilization of the nursing process in the assessment and management of the childbearing family. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium. Two lecture hours per week.
Credit: 2 semester hours
Co-requisite: VNSG 2160, 1234, 2161, 2431, 2261

VNSG 1234 Pediatrics
Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process. Two lecture hours per week.
Credit: 2 semester hours
Co-requisite: VNSG 1230, 2160, 2161, 2431, 2261

VNSG 1260 Clinical for Medical-Surgical Nursing I
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Twelve clinical hours per week.
Credit: 2 semester hours
Co-requisite: VNSG 1429, 1432, 2260

VNSG 1304 Foundations of Nursing
Introduction to the nursing profession including history, standards of practice, legal and ethical issues and role of the vocational nurse. Topics include mental health, therapeutic and communication, cultural and spiritual diversity, nursing process, and holistic awareness. Three lecture hours per week.
Credit: 3 semester hours
Co-requisite: VNSG 1331, 1227, 1423, 1160

VNSG 1331 Pharmacology
Fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process. Three lecture hours per week.
Credit: 3 semester hours
Co-requisite: VNSG 1227, 1304, 1423, 1160

VNSG 1423 Basic Nursing Skills
Mastery of entry-level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as the foundation for all nursing interventions. Two lecture hours, six lab hours per week.
Credit: 4 semester hours
Co-requisite: VNSG 1331, 1227, 1304, 1160

**VNSG 1429 Medical Surgical Nursing I**
Application of the nursing process to the care of adult patients experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings. Three lecture hours and two lab hours per week.
Credit: 4 semester hours
Co-requisite: VNSG 1260, 1432, 2260

**VNSG 1432 Medical-Surgical Nursing II**
Mastery of entry-level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as the foundation for all nursing interventions. Three lecture hours and two lab hours per week.
Credit: 4 semester hours
Co-requisite: VNSG 2260, 1429, 1260

**VNSG 2160 Clinical for Maternal-Neonatal Nursing**
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Six clinical hours per week.
Credit: 1 semester hour
Co-requisite: VNSG 1230, 1234, 2161, 2431, 2261, 2431, 2261

**VNSG 2161 Clinical for Pediatric Nursing**
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Concepts of mental health, pharmacology, nutrition, nursing process and technical skills are emphasized. Six clinical hours per week.
Credit: 1 semester hour
Co-requisite: VNSG 1230, 2160, 1234, 2431, 2261

**VNSG 2260 Clinical for Medical-Surgical Nursing II**
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Twelve clinical hours per week.
Credit: 2 semester hours
Co-requisite: VNSG 1429, 1260, 1432

**VNSG 2261 Clinical for Advanced Nursing Skills**
A health-related work-based learning experience that enables the student to apply specialized occupation theory, skills, and concepts. Direct supervision is provided by the clinical professional. Twelve clinical hours per week.
Credit: 2 semester hours
Co-requisite: VNSG 1230, 2160, 1234, 2161, 2431

**VNSG 2431 Advanced Nursing Skills**
Application of advanced level nursing skills and competencies in a variety of health care settings utilizing the nursing process as a problem-solving tool. Three lecture hours and two lab hours per week.
Credit: 4 semester hours
Co-requisite: VNSG: 1230, 2160, 1234, 2161, 2261

**Pharmacy Technician**

**PHRA 1143 Pharmacy Technician Certification Review**
A review of major topics covered on the national Pharmacy Technician Certification examination (PTCE). One lecture hour per week, one lab hour per week.
Credit: 1 semester hour

**PHRA 1160 Clinical I**
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. Six clinical hours per week.
Credit: 1 semester hour

**PHRA 1209 Pharmaceutical Mathematics I**
Solving pharmaceutical calculation problems encountered in the preparation and distribution of drugs. One hour lecture and two lab hours per week.
Credit: 2 semester hours

**PHRA 1247 Pharmaceutical Mathematics II**
Advanced concepts of Pharmaceutical Mathematics. One hour lecture, two hours lab per week.
Credit: 2 semester hours

**PHRA 1260 Clinical I Pharmacy Technician**
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. Nine clinical hours per week.
Credit: 2 semester hours

**PHRA 1301 Introduction to Pharmacy**
An overview of the qualifications, operational guidelines, and job duties of a pharmacy technician. Three lecture hours per week.
Credit: 3 semester hours
PHRA 1305 Drug Classification
A study of pharmaceutical drugs, abbreviations, classifications, dosages, side effects, and routes of administration. Three lecture hours per week.
Credit: 3 semester hours

PHRA 1313 Community Pharmacy Practice
Introduction to the skills necessary to process, prepare, label, and maintain records of prescriptions in a community pharmacy to include customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, inventory management and legal parameters. Two lecture hours, two lab hours per week.
Credit: 3 semester hours

PHRA 1340 Pharmacy Third Party Payment
Overview of third party payment and its impact on health care. Includes the principles and practices of managed care pharmacy, Medicaid and Medicare, payment plans, reimbursement methods, and formularies. Two hour lecture and two hours two lab hours per week.
Credit: 3 semester hours

PHRA 1349 Institutional Pharmacy Practice
Fundamentals of the diverse roles and practice of pharmacy technicians in an institutional pharmacy setting. In-depth coverage of hospital pharmacy organization, work flow and personnel, safety techniques, data entry, packaging and labeling operations, inpatient drug distribution systems including investigational drugs, continuous quality improvement and inventory control. Two hours lecture, two hours lab per week.
Credit: 3 semester hours

PHRA 1441 Pharmacy Drug Therapy and Treatment
Study of therapeutic agents, their classifications, properties, actions, and effects on the human body and their role in the management of disease. Four hours lecture per week.
Credit: 4 semester hours

PHRA 1445 Compounding Sterile Preparations
The process of compounding sterile preparations and aseptic technique within legal and regulatory guidelines specified by USP<797> standards. Two hours lecture, four hours lab per week.
Credit: 4 semester hours

PHRA 2260 Clinical II Pharmacy Technician
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. Nine hours clinical per week.
Credit: 2 semester hours

PHRA 2261 Clinical Community
A health-related work-based learning experience that enables the students to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
Eight hours clinical per week
Credit: 2 semester hours

**PHRA 2460 Clinical II**
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.
Twelve clinical hours per week.
Credit: 4 semester hours

**Phlebotomy**

**PLAB 1323 Phlebotomy**
Skill development in the performance of a variety of blood collection methods using proper techniques and standard precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, patient identification, specimen labeling, quality assurance, specimen handling, processing, accessioning, professionalism, ethics, and medical terminology. Three lecture hours per week.
Credit: 3 semester hours

**Philosophy**

**PHIL 1301 Introduction to Philosophy***
A study of major issues in philosophy and/or the work of major philosophical figures in philosophy.
Topics in philosophy may include theories of reality, theories of knowledge, theories of value, and their practical applications. Three lecture hours per week.
Credit: 3 semester hours

**PHIL 2306 Introduction to Ethics***
The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value. Three lecture hours per week.
Credit: 3 semester hours

**Physics**

**PHYS 1317 Physical Science II***
Course designed for non-science majors that surveys topics from physics, chemistry, geology, astronomy, and meteorology. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics.

**PHYS 1401 College Physics I***
Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound,
physical systems, Newton’s Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: MATH 2412 or Math 1316**
**MATH 1316 not offered every year.

**PHYS 1402 College Physics II**
Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving. Three lecture hours, four laboratory hours per week.
Credit: 4 semester hours
Prerequisite: PHYS 1401 and MATH 2412 or MATH 1316

**PHYS 1403 Stars and Galaxies**
Study of stars, galaxies, and the universe outside our solar system. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours

**PHYS 1404 Solar System**
Study of the sun and its solar system, including its origin. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours

**PHYS 1415 Physical Science I**
Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics.

**PHYS 1417 Physical Science II**
Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours
Prerequisite: Meet TSI college-readiness standard for Mathematics.

**PHYS 2425 University Physics I**
Fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem solving. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours
Prerequisite: MATH 2413 or approval of chairperson
PHYS 2426 University Physics II*
Principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics. Three lecture hours, three laboratory hours per week.
Credit: 4 semester hours
Prerequisite: PHYS 2425 and MATH 2414

Psychology

PSYC 2301 General Psychology*
General Psychology is a survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes. Three lecture hours per week.
Credit: 3 semester hours

PSYC 2314 Lifespan Growth and Development*
Life-Span Growth and Development is a study of social, emotional, cognitive and physical factors and influences of a developing human from conception to death. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: PSYC 2301

PSYC 2319 Social Psychology*
Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes, self, social cognition, and research methods. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: PSYC 2301

PSYC 2320 Abnormal Psychology*
This course provides an introduction to the psychological, biological, and socio-cultural factors involved in the development, diagnosis, and treatment of psychological disorders. It includes a review of the historical understanding of abnormal behavior and the development of modern diagnostic systems. It includes discussion of psychological research and practice as it relates to mental health and psychological functioning as well as legal and ethical issues.
Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: PSYC 2301

PSYC 2330 Biological Psychology*
An introduction to the biological bases of behavior. Topics include evolution, genetics, research methods in behavioral neuroscience, motivation and emotion, sensation and perception, learning and memory.
Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: PSYC 2301
Real Estate

**RELE 1300 Contracts Forms and Addenda**
Promulgated Contract Forms, shall include but is not limited to unauthorized practice of law, broker—lawyer committee, current promulgated and approved forms, commission rules governing use forms and case studies involving use of forms. Three hours lecture per week.
Credit: 3 Semester Hours

**RELE 1303 Real Estate Appraisal**
A study of the central purposes and functions of an appraisal, social and economic determinant of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1307 Real Estate Investment**
Characteristics of real estate investments. Includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1309 Real Estate Law**
Provides a study of legal concepts of real estate, land description, real property rights, estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of title. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1311 Law of Contracts**
Elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms and owner disclosure requirements. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1315 Property Management**
A study of the role of the property manager, landlord policies, operational guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1319 Real Estate Finance**
Monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial investments, equal credit opportunity laws affecting mortgage lending, Community Reinvestment Act, and the state housing agency. Three lecture hours per week.
Credit: 3 semester hours
**RELE 1321 Real Estate Marketing**
Real estate professionalism and ethics; characteristics of successful salespersons, time management; psychology of marketing; listing procedures; advertising; negotiating and closing financing; and the deceptive trade practice act and commercial code. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1325 Real Estate Mathematics**
Basic arithmetic skills. Includes mathematical logic, percentages, interest, time, value of money, depreciation, amortization, proration and estimation of closing statements. Three lecture hours per week.
Credit: 3 semester hours

**RELE 1406 Principles of Real Estate**
A complete overview of licensing as a broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures and real estate mathematics. Covers at least three hours of classroom instruction on federal, state and local laws relating to housing, discrimination, housing credit discrimination and community reinvestment. Fulfills the 4 semester hours of Principals of Real Estate required for salesperson license.
Four lecture hours per week.
Credit: 4 semester hours

**RELE 2301 Law of Agency**
A study of law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent’s authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying procedures, and the disclosure of an agency. Three lecture hours per week.
Credit: 3 semester hours

**RELE 2331 Real Estate Brokerage**
A study of law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria. Three lecture hours per week.
Credit: 3 semester hours

**RELE 2389 Internship - Real Estate**
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.
Credit: 3 semester hours

**Respiratory Care/Therapy**

**RSPT 1141 Respiratory Home Care/Rehabilitation**
A study of respiratory home care/rehabilitation equipment, procedures, and patient education. One hour lecture per week.
RSPT 1160 Clinical/Respiratory Care
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. Six hours clinical per week.
Credit: 1 semester hours
Pre-requisites: RSPT 2210, RSPT 1340, RSPT 2317, RSPT 2266
Co-requisite RSPT 1201, RSPT 1329

RSPT 1201 Introduction to Respiratory Care
An introduction to the field of respiratory care. Topics include the history of respiratory care, hospital organization, medical malpractice, ethics, vital signs, body mechanics, cardiopulmonary assessment, infection control. Two lecture hours and one hour lab hour per week.
Credit: 2 semester hours
Pre-requisite: RSPT 1160
Co-requisite: RSPT 1329

RSPT 1207 Cardiopulmonary A&P
Anatomy and Physiology of the cardiovascular and pulmonary systems. One hour lecture, four hour lab per week.
Credit: 2 semester hours

RSPT 1240 Advanced Cardiopulmonary Anatomy and Physiology
Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system. Two hours lecture, one hour lab per week.
Credit: 2 semester hours
Pre-requisites: RSPT 1207

RSPT 1261 Clinical Respiratory Care
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. Twelve hours clinical per week.
Credit: 2 semester hours
Pre-requisite 1361

RSPT 1311 Respiratory Care Procedures II
Develops essential knowledge and skills of airway care and mechanical ventilation. Two hours lecture and four hours lab per week.
Pre-requisites: RSPT 1201, RSPT 1410
Co-requisites: RSPT 1340, RSPT 1361, RSPT 2139, RSPT 2216
Credit: 3 semester hours

RSPT 1329 Respiratory Care Fundamentals I
Introduction to respiratory care fundamentals. Utilize data related to patient assessment: prepare equipment for function, operation and cleanliness; perform infection control, vital signs, physical assessment, medical gas therapy, and humidity/aerosol therapy; identify equipment, malfunctions; and maintain patient records. Two hours lecture and four lab hours per week.
Credit: 3 semester hours
Co-requisites: RSPT 1201, RSPT 1160

RSPT 1340 Advanced Cardiopulmonary Anatomy and Physiology
Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system. Two lecture hours and four lab hours per week.
Credit: 3 semester hours
Co-requisites: RSPT 1201, RSPT 1160, RSPT 1410

RSPT 1361 Clinical Respiratory Care
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. Sixteen hours clinical per week.
Credit: 3 semester hours
Pre-requisites: RSPT 1160, RSPT 1201, RSPT 1329

RSPT 1410 Respiratory Care Procedures I
Essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary disease. Three hours lecture and four hours lab per week.
Credit: 4 semester hours
Co-requisites: RSPT 1201, RSPT 1160, RSPT 2402

RSPT 2139 Advanced Cardiac Life Support
This course addresses current skills and knowledge pertinent to Advanced Cardiac Life Support with an emphasis on airway management. Designed to develop skills for resuscitation of the adult. Includes strategies for managing and stabilizing the cardiopulmonary arrested patient. The student will receive certification. Laboratory fee charged. One hour lecture, one hour lab per week.
Credit: 1 semester hour
Pre-requisites: RSPT 1160

RSPT 2147 Specialties in Respiratory Care
Emerging and specialty practices in respiratory care. One hour lecture, one hour lab per week.
Credit: 1 semester hour
Pre-requisites: RSPT 1201, RSPT 1410
Co-requisites: RSPT 1261, RSPT 2414

RSPT 2167 Practicum-Respiratory Care
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Sixteen hours clinical per week.
RSPT 2210 Cardiopulmonary Disease
Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases. One hour lecture per week, four hour lab per week.
Credit: 2 semester hours
Pre-requisites: RSPT 1340

RSPT 2217 Respiratory Care Pharmacology
A study of drugs that affect the cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and physiological interactions. Two hours lecture and one hour lab per week.
Credit: 2 semester hours

RSPT 2230 Respiratory Care Examination Preparation
Comprehensive review to optimize respiratory care credentialing exam success. One lecture hour per week, four lab hours per week.
Credit: 2 semester hours
Pre-requisites: RSPT 1201, RSPT 2358, RSPT 1410, RSPT 1340, RSPT 1311, RSPT 2353, RSPT 2210
Co-requisites: RSPT 2130, RSPT 2231

RSPT 2231 Simulations in Respiratory Care
Theory of clinical simulation examinations. Includes construction types, scoring, and mechanics of taking the computerized simulation examination. One hour lecture, four hours lab per week.
Credit: 2 semester hour
Pre-requisites: RSPT 2267, RSPT 1141, RSPT 1329, RSPT 1331, RSPT 1240, RSPT 2210, RSPT 1101, RSPT 2317, RSPT 2314, RSPT 2353, RSPT 2305

RSPT 2266 Practicum—Respiratory Care
Practical, general workplace training supported by an individualized learning plan developed by the employer, college and student. Sixteen hours clinical experience per week.
Credit: 2 semester hours
Pre-requisites: RSPT 1160, RSPT 1361, RSPT 1261

RSPT 2267 Practicum—Respiratory Care
Practical, general workplace training supported by an individualized learning plan developed by the employer, college and student. Sixteen hours clinical experience per week.
Credit: 2 semester hours
Pre-requisites: RSPT 2266

RSPT 2353 Neonatal/Pediatric Cardiopulmonary Care
A study of neonatal/pediatric cardiopulmonary care. Two hours lecture, three hours lab per week.  
Credit: 3 semester hours  
Pre-requisites: RSPT 2314, RSPT 1101, RSPT 1329, RSPT 1331, RSPT 1261

**RSPT 2355 Critical Care Monitoring**
Advanced monitoring techniques used to assess a patient in the critical care setting. Two hours lecture, 
four hours lab per week.  
Credit: 3 semester hours  
Pre-requisites: RSPT 2314, RSPT 2210, RSPT 1240, RSPT 2266

**RSPT 2358 Respiratory Care Patient Assessment**
Integration of patient examination techniques, including patient history and physical exam, lab studies, 
x-ray, pulmonary function, arterial blood gases, and invasive and noninvasive hemodynamics. Two 
lecture hours, four lab hours per week.  
Credit: 3 semester hours  
Co-requisites: RSPT 2353, RSPT 2210, RSPT 2266

**RSPT 2414 Mechanical Ventilation**
The study of mechanical ventilation with emphasis on ventilator classification, methods, principles, and 
operational characteristics. Three hours lecture, four hours lab per week.  
Credit: 4 semester hours  
Pre-requisites: RSPT 1361, RSPT 1201, RSPT 1311, RSPT 1410, RSPT 1340, RSPT 2210

**Sociology**

**SOCI 1301 Introductory Sociology**
The scientific study of human society, including ways in which groups, social institutions, and individuals 
affect each other. Causes of social stability and social change are explored through the application of 
various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of 
social issues in their institutional context may include topics such as social stratification, gender, 
race/ethnicity, and deviance. Three lecture hours per week.  
Credit: 3 semester hours

**SOCI 1306 Social Problems**
Application of sociological principles and theoretical perspectives to major social problems in 
contemporary society such as inequality, crime and violence, substance abuse, environmental issues, 
deviance, or family problems. Three lecture hours per week.  
Credit: 3 semester hours

**SOCI 2301 Marriage and the Family**
Sociological and theoretical analysis of the structures and functions of the family, the varied cultural 
patterns of the American family, and the relationships that exist among the individuals within the family, 
as well as the relationships that exist between the family and other institutions in society. Three lecture 
hours per week.
Credit: 3 semester hours

Spanish

SPAN 1411 Beginning Spanish I*
Basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level. Three lecture hours, one lab hour per week.
Credit: 4 semester hours
Prerequisite: SPAN 1411

SPAN 1412 Beginning Spanish II*
Continued development of basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level. Three lecture hours, one lab hour per week.
Credit: 4 semester hours
Prerequisite: SPAN 1411

SPAN 2311 Intermediate Spanish I*
The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: SPAN 1412 or advanced standing by examination

SPAN 2312 Intermediate Spanish II*
The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: SPAN 2311

Speech

SPCH 1315 Public Speaking*
Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students’ speaking abilities, as well as ability to effectively evaluate oral presentations. Three lecture hours per week.
Credit: 3 semester hours

SPCH 1321 Business & Professional Communication*
Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams and technologically mediated formats. Three lecture hours per week.
Credit: 3 semester hours
**SPCH 2333 Discussion and Small Group Communication**
Discussion and small group theories and techniques as they relate to the group process and interaction.
Three lecture hours per week.
Credit: 3 semester hours
Prerequisite: ENGL 1301 or permission of the course instructor, or Division Chair.

**Surgical Technology**

**HPRS 2200 Pharmacology for Health Professions**
A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages.
Two lecture hours per week
Credit: 2 Semester Hours

**SRGT 1244 Technological Sciences for the Surgical Technologist**
Specialized surgical modalities covered include endoscopy, microsurgery, therapeutic surgical energies, and other integrated science technologies. Two lecture hours per week.
Credit: 2 Semester Hours

**SRGT 1260 Clinical I Surgical Technology/Technologist**
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. Eight clinical hours per week (92 clinical hours total.)
Credit: 2 Semester Hours

**SRGT 1405 Introduction to Surgical Technology**
Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts. Three lecture hours and three lab hours per week.
Credit: 4 Semester Hours

**SRGT 1409 Fundamentals of Perioperative Concepts and Techniques**
In-depth coverage of perioperative concepts such as aseptic principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field. Three lecture hours and four lab hours per week.
Credit: 4 semester hours

**SRGT 1441 Surgical Procedures I**
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, otorhinolaryngology, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care. Two lecture hours and four lab hours per week.
Credit: 4 Semester Hours

**SRGT 1442 Surgical Procedures II**
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the cardiothoracic, peripheral vascular, plastic/reconstructive, ophthalmology, oral/maxillofacial, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care. Four lecture hours, one lab hour per week.
Credit: 5 Semester Hours

**SRGT 2130 Professional Readiness**
Overview of professional readiness for employment, attaining certification, and maintaining certification status. A capstone experience may be included. One lecture hour per week.
Credit: 1 semester hour

**SRGT 2260 Clinical II-Surgical Technology/Technologist**
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. Sixteen (16) clinical hours total
Credit: 2 Semester Hours

**SRGT 2362 Clinical II Surgical Technology/Technologist**
A health-related work-based learning experience that enables the students to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional. Twelve clinical hours per week.
Credit: 3 semester hours

**SRGT 2460 Clinical III-Surgical Technology/Technologist**
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. Twenty-four clinical hours per week (240 clinical hours total).
Credit: 4 Semester Hours

**SRGT 2560 Clinical III – Surgical Technology/Technologist**
A health-related work-based learning experience that enables the students to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional. Twenty-four clinical hours per week (240 Clinical Hours total).
Credit: 5 Semester hours

**Vocational Nursing**
See Nursing for a complete listing of courses.

**Welding**

**WLDG 1317 Introduction to Layout and Fabrication**
A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction. Two lecture hours, two lab hours per week.
Credit: 3 semester hours
**WLDG 1337 Intro to Welding Metallurgy**
A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Two hours lecture, two lab hours per week.
Credit: 3 semester hours

**WLDG 1412 Introduction to Flux Cored Arc Welding (FCAW)**
An overview of terminology, safety procedures, and equipment set-up. Practice in performing various joints using Flux Cored Arc Welding (FCAW) equipment. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

**WLDG 1413 Introduction to Blueprint Reading for Welders**
A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes. Includes systems of measurement and industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production. Two hours lecture, four lab hours per week.
Credit: 4 semester hours

**WLDG 1417 Introduction to Layout and Fabrication**
A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**WLDG 1421 Introduction to Welding Fundamentals**
An introduction to the fundamentals of equipment used in oxyacetylene and arc welding, including welding and cutting safety, basic oxyacetylene welding and cutting, basic arc welding processes and basic metallurgy. Two lecture hours, four lab hours per week.
Credit: 4 semester hours

**WLDG 1430 Introduction to Gas Metal Arc Welding (GMAW)**
A study of the principles of gas metal arc welding, set up and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools/equipment. Instruction in various joint designs. Two lecture hours, four lab hours per week.
Credit: 4 semester hours
Prerequisites: WLDG 1421 Intro to Welding Fundamentals or approval of instructor

**WLDG 1434 Introduction to Gas Tungsten Arc Welding (GTAW)**
An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs. Two lecture hours, four lab hours per week.
Credit: 4 semester hours
Prerequisites: WLDG 1421 Intro to Welding Fundamentals
WLDG 1435 Introduction to Pipe Welding
An introduction to welding of pipe using the shielded metal arc welding process (SMAW), including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G welds using various electrodes. Two lecture hours, four lab hours per week.
Credit: 4 semester hours
Prerequisite: WLDG 1421 Intro to Welding Fundamentals

WLDG 2443 Advanced Shielded Metal Arc Welding (SMAW)
Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded metal arc welding processes with open v-groove joints in all positions. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite: WLDG 1421 Intro to Welding Fundamentals or approval of instructor

WLDG 2435 Advanced Layout & Fabrication
An advanced course in layout and fabrication. Includes production and fabrication of layout, tools, and processes. Emphasis on application of fabrication and layout skills. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite: WLDG 1317 Intro to Layout & Fabrication or approval of instructor

WLDG 2451 Advanced GTAW
Advanced topics in GTAW welding, including welding in various positions and directions. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite: WLDG 1434 Intr to GTAW or approval of instructor

WLDG 2452 Advanced Flux Cored Arc Welding (FCAW)
Advanced concepts of flux cored arc welding of structural and fabricated steel products. Skill development in multi-pass fillet and v-groove welding. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite: WLDG 1412 Intro to FCAW or approval of instructor

WLDG 2453 Advanced Pipe Welding
Advanced topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes. Two hours lecture, four lab hours per week.
Credit: 4 semester hours
Prerequisite: WLDG 1435 Intro to Pipe Welding or approval of instructor
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