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## Explanation of Items in Course Descriptions

**Course Type:** ACNT Accounting Technician (**N**)

**Course Prefix:** ACNT

**Course Number:** 1303

**Course Title:** Introduction to Accounting I

**Semester Hour Credit:** (3-0-3)

**Lecture Hours Each Week:** (3-0-3)

**Lab Hours Each Week:** (3-0-3)

**TSI Skills:** See Texas Success Initiative (TSI) Requirements Legend

## Texas Success Initiative (TSI) Requirement Legend

**R:** Reading

**M:** Math

**W:** Writing

**R, M:** Reading and Math

**R, W:** Reading and Writing

**R, W, M:** Reading, Writing and Math

## Course Types

**T - Transfer/Academic Courses:** Designated by the Texas Higher Education Coordinating Board for general academic transfer among community, state, and technical colleges in Texas; and state public four-year colleges and universities as freshman and sophomore general education courses. Students should check with the transfer institution to verify applicability to their specific major.

**N - WECM Courses:** Designated by the Texas Higher Education Coordinating Board as workforce education (technical) courses offered for credit and CEUs (Continuing Education Units). While these courses are designed to transfer among state community colleges, they are not designed to automatically transfer to public four-year colleges and universities. Continuing education courses do not transfer to other colleges or to semester hour programs.

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## ABDR Autobody Repair (N)

- ABDR 1331 Basic Refinishing 1-7-3**  
An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts. Prerequisite: ABDR 1419.
- ABDR 1349 Automotive Plastic and Sheet Molded Compound Repair 1-7-3**  
A comprehensive course in repair of interior and exterior plastics including the use of various types of adhesives and plastic welding. Prerequisite: ABDR 1419.
- ABDR 2347 Advanced Collision Repair Welding 1-8-3**  
This course is designed to provide the student with instruction in the use of those gas and electrical welding and cutting processes required in Auto Collision Repair. Basic gas welding and cutting, GMAW (MIG), resistance spot welding, and plasma arc cutting will be covered. Emphasis will be placed on safety; equipment selection and set up; the design, preparation, and fitting of weld joints; and the application of correct welding procedures to specific repair requirements. Prerequisite: ABDR 1419.
- ABDR 1419 Basic Metal Repair 2-7-4**  
In-depth coverage of basic metal principles and working techniques including proper tool usage and product application.
- ABDR 1441 Structural Analysis and Damage Repair I 2-7-4**  
Expanded training in the roughing and shaping procedures on automotive sheet metal necessary to make satisfactory body repairs. Emphasis on the alignment of component parts such as doors, hood, front-end assemblies, and deck lids. Prerequisites: ABDR 1419 and 2447.
- ABDR 2449 Advanced Refinishing 2-7-4**  
Skill development in multi-stage refinishing techniques. Further development in identification of problems and solutions in color matching and partial panel refinishing. Prerequisites: ABDR 1419 and 1431.
- ABDR 2488 Internship- Autobody/Collision and Repair Technology/Technician 0-19-4**  
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 employer. Prerequisite: Department approval required.

## ACCT Accounting (T)

- ACCT 2301 Principles of Financial Accounting 3-0-3**  
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 procedures 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 owners' 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).
- ACCT 2302 Principles of Managerial Accounting 3-0-3**  
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. Prerequisite: ACCT 2301.

## ACNT Accounting Technician (N)

- ACNT 1303 Introduction to Accounting I 3-0-3**  
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 reconciliations, and payroll.
- ACNT 1304 Introduction to Accounting II 3-0-3**  
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. Prerequisite: ACNT-1303.
- ACNT 1311 Introduction to Computerized Accounting 3-0-3**  
Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package.
- ACNT 1329 Payroll and Business Tax Accounting 3-0-3**  
A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and computerized environment.
- ACNT 1331 Federal Income Tax: Individual 3-0-3**  
A study of the federal tax law for preparation of individual income tax returns.

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## **AGAH Agriculture (N) see also AGCR, AGEQ, AGMG and HALT**

**AGAH 1343 Animal Health 2-3-3**  
An overview of anatomy and physiology as it relates to animal health. Topics include disease symptoms, basic immunology, diagnosis, prevention, and control of infectious and non-infectious diseases of animals.

**AGAH 1347 Animal Reproduction 2-3-3**  
Study of organs, functions, endocrinology, and common management practices related to reproduction. Other topics will include artificial insemination and pregnancy determination.

**AGAH 1353 Beef Cattle Production 2-3-3**  
An overview of the beef cattle industry. Topics include the organization and operation of beef cattle enterprises, selection breeding, reproduction, health, nutrition, management, and marketing. Suggested prerequisite: AGRI 1419.

**AGAH 2313 Principles of Feeds and Feeding 2-3-3**  
An overview of the anatomy and physiology of the digestive systems of various livestock animals. Study of the role and application of feed nutrients and additives. Topics include comparative aspects of digestion, absorption, and metabolism of nutrients. Emphasis on identification of nutrient requirements and formulation of dietary feeding regimens.

## **AGCR Agriculture (N) see also AGAH, AGEQ, AGMG and HALT**

**AGCR 1307 Range Management 2-3-3**  
Study of the practical problems of managing native pastures and range lands. Topics include range land ecology, stocking rates, rotation systems, toxic plants, range reseeding, brush control, and ecological and physiological responses of range vegetation to grazing.

**AGCR 2318 Soil Science 2-3-3**  
Introduction to the physical, chemical, and biological properties of soils. Topics include the relationship between crops and soils, conservation of soil and water resources, and the economic use of fertilizer.

## **AGEQ Agriculture (N) see also AGAH, AGCR, AGMG and HALT**

**AGEQ 1301 Equine Behavior and Training I 2-3-3**  
Instruction in basic equine behavior and training methods. Topics include anatomy and physiology, behavior, safety, health care management, and training methods.

**AGEQ 1311 Equine Science I 2-3-3**  
An introduction to the horse industry. Topics include breeds and breeding, selection, and management practices.

**AGEQ 1319 Western Horsemanship I 2-3-3**  
Instruction in basic horsemanship skills including handling, saddling, bridling, mounting, riding, grooming, safety, and basic health care.

**AGEQ 2301 Equine Behavior and Training II 2-3-3**  
A study of advanced concepts in equine behavioral patterns relevant to specific performance training strategies. Emphasis on training methods for specific performance objectives.

**AGEQ 2311 Equine Science II 2-3-3**  
Study of advanced concepts in horse production. Emphasis on management practices utilized in the horse industry.

**AGEQ 2339 Western Horsemanship II 2-3-3**  
Instruction in advanced horsemanship skills including cues, lead changes, head-set, side-pass, and pivots. Prerequisite: AGEQ 1319.

## **AGMG Agriculture (N) see also AGAH, AGCR, AGEQ, and HALT**

**AGMG 2306 Livestock and Meat Marketing 2-3-3**  
Exploration of the relationship of livestock production to marketing. Topics include trends, consumption, processing, distribution, governmental regulation, transportation, and animal health.

**AGMG 2486 Internship Agriculture Business & Management, General 0-19-4**  
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. Department approval required.

## **AGRI Agriculture (T)**

**AGRI 1131 The Agricultural Industry 1-0-1**  
Overview of agriculture and the American agricultural system, including an examination of career opportunities and requirements.

**AGRI 1309 Computers in Agriculture 2-2-3**  
Survey of the use of computers in agricultural applications.

<b>AGRI 1407</b>	<b>Agromony</b>	<b>3-3-4</b>
Principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods. Laboratory activities will reinforce the fundamental principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods.		
<b>AGRI 1415</b>	<b>Horticulture</b>	<b>3-3-4</b>
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. Laboratory activities will reinforce the 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.		
<b>AGRI 1419</b>	<b>Introductory Animal Science</b>	<b>3-3-4</b>
Scientific animal production and the importance of livestock and meat industries. Selection, reproduction, nutrition, management, and marketing of livestock. Laboratory activities will reinforce scientific animal production and the importance of livestock and meat industries. Selection, reproduction, nutrition, management, and marketing of livestock.		
<b>AGRI 2301</b>	<b>Agriculture Power Units</b>	<b>2-2-3</b>
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.		
<b>AGRI 2317</b>	<b>Introduction to Agriculture Economics</b>	<b>3-0-3</b>
Fundamental economic principles and their application in the agriculture industry.		
<b>AGRI 2330</b>	<b>Wildlife Conservation and Management</b>	<b>2-2-3</b>
Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands.		

**AIRP Aviation Science (N) see also AVIM**

<b>AIRP 1255</b>	<b>Intermediate Flight</b>	<b>1-3-2</b>
Provides students with flight hours and skills to fulfill solo cross country requirements for the F.A.A., Commercial Pilot Certificate with airplane single engine land rating. Dual flight instruction provided to introduce basic instrument operations including instrument approaches and holding procedures. Prerequisites: AIRP 2250, F.A.A. Private Pilot Certificate with Airplane Category Rating; Current Class II F.A.A. Medical Certificate and completion or concurrent enrollment in AIRP 1341.		
<b>AIRP 1305</b>	<b>Aircraft Science</b>	<b>3-0-3</b>
Introductory course in the development of aviation. Topics include design and development of aircraft and aircraft components, basic flight systems, aircraft flight characteristics and performance and the historical development of the Aviation Industry.		
<b>AIRP 1307</b>	<b>Aviation Meteorology</b>	<b>3-0-3</b>
In-depth study of meteorological phenomena affecting aircraft operations. Topics include basic concepts of aviation meteorology including temperature, moisture, pressure and stability. Major emphasis is placed on recognition and avoidance of common aviation weather hazards. Course also covers procurement, analysis and use of weather reports and forecasts for flight planning.		
<b>AIRP 1315</b>	<b>Private Flight</b>	<b>2-3-3</b>
Flight training to prepare the student for the completion of F.A.A. certification requirements for the Private Pilot Certificate with Airplane Single Engine Land Rating. Dual and solo flight hours are included for training in the areas of private pilot flight maneuvers and cross country navigation. Prerequisite: F.A.A. Class II Medical Certificate, F.A.A. Student Pilot Certificate and completion or concurrent enrollment in AIRP 1417.		
<b>AIRP 1341</b>	<b>Advanced Air Navigation</b>	<b>3-0-3</b>
Skill development in advanced airplane systems and performance including radio navigation and cross-country flight planning. Includes an introduction to instrument flight operations and navigation. This course may be used as part of a program leading to Federal Aviation Administration certification. Prerequisite: AIRP 1451.		
<b>AIRP 1343</b>	<b>Aerodynamics</b>	<b>3-0-3</b>
Study of the general principles of the physical laws of flight. Topics include physical terms and the four forces of flight: lift, weight, thrust, and drag; aircraft design; stability control; and high-speed flight characteristics.		
<b>AIRP 1417</b>	<b>Private Pilot Ground School</b>	<b>3-3-4</b>
Basic ground school for the Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for FAA Private Pilot Certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations.		
<b>AIRP 1451</b>	<b>Instrument Ground School</b>	<b>3-3-4</b>
A study of basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of aerial navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification. Prerequisite: AIRP 1417.		

<b>AIRP</b>	<b>2239</b>	<b>Commercial Flight</b>	<b>1-3-2</b>
Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers. Prerequisite: Minimum of a Private Pilot Certificate with Airplane category and instrument rating; have at least 125 hours of flight time of which no more than 40 were in an approved ground trainer; hold a current Class II FAA Medical Certificate; have completed or be concurrently enrolled in AIRP 2337, Commercial Ground School. Approved ground school must be completed prior to finishing AIRP 2239.			
<b>AIRP</b>	<b>2243</b>	<b>Flight Instructor -Multiengine Airplane</b>	<b>1-2-2</b>
Instruction in flight training to prepare the student for the Federal Aviation Administration Flight Instructor - Multiengine Airplane Rating. Includes combined ground and flight instruction and analysis of flight maneuvers. Prerequisite: Must hold a current FAA CFI Certificate with Airplane Single Engine Rating and Instrument Airplane.			
<b>AIRP</b>	<b>2250</b>	<b>Instrument Flight</b>	<b>1-3-2</b>
Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument procedures. Prerequisite: Minimum of a Private Pilot Certificate with an Airplane category; hold a Class II FAA Medical Certificate; a minimum of 95 hours of flight experience of which 25 were solo cross-country since the Private Pilot Certificate was issued; 20 hours of instrument instruction of which no more than 10 were in an approved ground trainer; have completed or will complete AIRP 1451 before the end of this course.			
<b>AIRP</b>	<b>2251</b>	<b>Multiengine Flight</b>	<b>2-2-2</b>
Preparation for the multiengine class rating which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures. Prerequisite: Commercial Pilot Certificate.			
<b>AIRP</b>	<b>2336</b>	<b>Certified Flight Instructor - Airplane</b>	<b>2-3-3</b>
Flight instruction necessary to qualify for the Federal Aviation Administration Certified Flight Instructor - Airplane Certificate. Topics include ground and flight instruction. Prerequisite: Must hold Commercial Pilot certification with instrument rating.			
<b>AIRP</b>	<b>2337</b>	<b>Commercial Ground School</b>	<b>3-0-3</b>
A study of advanced aviation topics that can be used for Federal Aviation Administration certification at the commercial pilot level. Includes preparation for the Commercial Airplane knowledge test. Prerequisite: AIRP 1451.			
<b>AIRP</b>	<b>2342</b>	<b>Flight Instructor - Instrument Airplane</b>	<b>2-2-3</b>
Skill development for flight instructors necessary to qualify for the Federal Aviation Administration Certified Flight Instructor Instrument Rating, Airplane Single-Engine Land. Prerequisite: Certified Flight Instructor Certificate, with Single Engine Rating.			
<b>AIRP</b>	<b>2355</b>	<b>Propulsion Systems</b>	<b>3-0-3</b>
In-depth coverage of aircraft engine theory and principles of operation of various types of aircraft engines including reciprocating, turboprop, turbojet, and turbo fan. Topics include propellers, superchargers, engine accessories, controls, and instrumentation.			

## **ANTH Anthropology (T)**

<b>ANTH</b>	<b>2301</b>	<b>Physical Anthropology</b>	<b>3-0-3</b>
The study of human origins and bio-cultural adaptations. Topics may include primatology, genetics, human variation, forensics, health, and ethics in the discipline.			
<b>ANTH</b>	<b>2302</b>	<b>Introduction to Archeology</b>	<b>3-0-3</b>
The study of the human past through material remains. The course includes a discussion of methods and theories relevant to archeological inquiry. Topics may include the adoption of agriculture, response to environmental change, the emergence of complex societies, and ethics in the discipline.			
<b>ANTH</b>	<b>2346</b>	<b>General Anthropology</b>	<b>3-0-3</b>
The study of human beings, their antecedents, related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, their applications, and ethics in the discipline.			
<b>ANTH</b>	<b>2351</b>	<b>Cultural Anthropology</b>	<b>3-0-3</b>
The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline.			

## **ARCE Computer Aided Drafting and Design (N) see also DFTG**

<b>ARCE</b>	<b>1452</b>	<b>Structural Drafting</b>	<b>3-3-4</b>
A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute. Prerequisite: DFTG 1409.			

## **ARTC Graphics and Printing (N) see also GRPH**

<b>ARTC</b>	<b>1302</b>	<b>Digital Imaging I</b>	<b>2-4-3</b>
Digital imaging using raster image editing and/or image creation software; scanning, resolution, file formats, output devices, color systems, and image-acquisitions.			

<b>ARTC 1313</b>	<b>Digital Publishing I</b>	<b>2-4-3</b>
The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.		
<b>ARTC 1327</b>	<b>Typography</b>	<b>2-4-3</b>
A study of letterforms and typographic concepts as elements of graphic communication. Emphasis on developing a current, practical typographic knowledge based on industry standards. Prerequisite: ARTC 2348.		
<b>ARTC 2305</b>	<b>Digital Imaging II</b>	<b>2-4-3</b>
Principles of digital image processing and electronic painting. Emphasis on bitmapped- or raster-based image marking and the creative aspects of electronic illustration for commercial or fine art applications. Prerequisite: ARTC 1302.		
<b>ARTC 2313</b>	<b>Digital Publishing II</b>	<b>2-4-3</b>
Layout procedures from thumbnails and roughs to final comprehensive and print output. Emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects. Prerequisite: ARTC 1313.		
<b>ARTC 2333</b>	<b>Publication Design</b>	<b>2-4-3</b>
Development of skills and advanced knowledge of publishing software, with emphasis on the maintenance of visual continuity in documents for publication. Prerequisite: ARTC 2348.		
<b>ARTC 2348</b>	<b>Digital Publishing III</b>	<b>2-4-3</b>
A project based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques. Prerequisite: ARTC 2313.		
<b>ARTC 2435</b>	<b>Portfolio Development for Graphic Design</b>	<b>3-3-4</b>
Preparation of a portfolio comprised of completed graphic design projects. An evaluation and demonstration of the portfolio presentation methods based on the student's specific area of study.		
<b>ARTC 2488</b>	<b>Internship – Commercial and Advertising Art</b>	<b>0-19-4</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Department approval required.		

## ARTS Arts (T)

<b>ARTS 1303</b>	<b>Art History I</b>	<b>3-0-3</b>
A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century. Prerequisite: None		
<b>ARTS 1304</b>	<b>Art History II</b>	<b>3-0-3</b>
A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day. Prerequisite: None		
<b>ARTS 1311</b>	<b>Design I (2-dimensional)</b>	<b>2-4-3</b>
An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design. Prerequisite: None		
<b>ARTS 1312</b>	<b>Design II (3-dimensional)</b>	<b>2-4-3</b>
An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design. Prerequisite: None		
<b>ARTS 1316</b>	<b>Drawing I</b>	<b>2-4-3</b>
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. Prerequisite: None		
<b>ARTS 1317</b>	<b>Drawing II</b>	<b>2-4-3</b>
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. Prerequisite: ARTS 1316.		
<b>ARTS 2311</b>	<b>Design III (Color Theory)</b>	<b>2-4-3</b>
Studio art course that is a theoretical and practical study of color and composition in art and design. The course consists of studio based projects using the formal and conceptual aspects of color. The course also examines the functions of color in art from different historical and cultural perspectives. Prerequisite: Computer literacy and ARTS 1311, or Instructor Approval.		
<b>ARTS 2313</b>	<b>Graphic Design</b>	<b>2-4-3</b>
Studio course that introduces basic objectives, principles and methods used in graphic design. The course focuses on creativity, aesthetic judgment and critical thinking skills to expand conceptual solutions within the realm of contemporary graphic design. Prerequisite: None		
<b>ARTS 2316</b>	<b>Painting I</b>	<b>2-4-3</b>
Studio art course that introduces the fundamental principles, materials, and techniques of painting. Prerequisite: None.		
<b>ARTS 2317</b>	<b>Painting II</b>	<b>2-4-3</b>
Studio art course that furthers the study of the principles, materials and techniques of painting. Prerequisite: ARTS 2316.		

<b>ARTS 2323</b>	<b>Life Drawing I</b>	<b>2-4-3</b>
Studio art course that introduces the analytic study of the human form and the figure's potential for compositional and expressive use in drawing. Prerequisite: None.		
<b>ARTS 2341</b>	<b>Metals</b>	<b>2-4-3</b>
An introduction to jewelry-making and metalworking techniques. Basic fabrication techniques are stressed including bezel settings. Some lost wax casting is included. Prerequisite: None		
<b>ARTS 2346</b>	<b>Ceramics I</b>	<b>2-4-3</b>
A studio art course that introduces basic building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery. Prerequisite: None		
<b>ARTS 2347</b>	<b>Ceramics II</b>	<b>2-4-3</b>
A studio art course that furthers the study of building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery. Prerequisite: ARTS 2346.		
<b>ARTS 2348</b>	<b>Digital Media</b>	<b>2-4-3</b>
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.		
<b>ARTS 2356</b>	<b>Photography I (fine arts emphasis)</b>	<b>2-4-3</b>
A studio art course that introduces the technical and conceptual basics of photography as a creative medium. Prerequisites: None.		
<b>ARTS 2357</b>	<b>Photography II (fine arts emphasis)</b>	<b>2-4-3</b>
A studio art course that furthers the study of the technical and conceptual basics of photography as a creative medium. Prerequisite: ARTS 2356.		
<b>ARTS 2366</b>	<b>Watercolor I</b>	<b>2-4-3</b>
Studio art course that introduces the fundamental principles, materials, and techniques of watercolor and other water-based media. Prerequisite: None.		
<b>ARTS 2389</b>	<b>Academic Cooperative</b>	<b>2-4-3</b>
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.		

## **AUMT Automotive Service and Repair (N)**

<b>AUMT 1319</b>	<b>Automotive Engine Repair</b>	<b>2-4-3</b>
Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, and disassembly, repair, and reassembly of the engine. Prerequisites: AUMT 2305.		
<b>AUMT 1405</b>	<b>Introduction to Automotive Technology</b>	<b>3-3-4</b>
An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and basic automotive maintenance.		
<b>AUMT 1407</b>	<b>Automotive Electrical Systems</b>	<b>2-7-4</b>
An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of charging and starting systems, and electrical accessories. Emphasis on electrical principle schematic diagrams and service manuals. Prerequisites: AUMT 1405.		
<b>AUMT 1410</b>	<b>Automotive Brake Systems</b>	<b>2-6-4</b>
Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. Prerequisite: AUMT 1405.		
<b>AUMT 1416</b>	<b>Automotive Suspension and Steering Systems</b>	<b>2-6-4</b>
Diagnosis and repair of automotive suspension and steering systems including electronically controlled systems. Includes component repair, alignment procedures and tire and wheel service. Prerequisite: AUMT 1405.		
<b>AUMT 1445</b>	<b>Automotive Climate Control Systems</b>	<b>2-6-4</b>
Diagnosis and repair of manual/electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. Prerequisites: AUMT 1407.		
<b>AUMT 1472</b>	<b>Automotive Computer Systems</b>	<b>2-7-4</b>
This course provides the student with a working knowledge of automotive computer systems. It includes principles of operation, components and function, tools and test equipment, diagnosis, and service and repair of automotive computerized systems. Prerequisites: AUMT 1407.		
<b>AUMT 2305</b>	<b>Automotive Engine Theory</b>	<b>2-2-3</b>
Fundamentals of engine operation and diagnosis including lubrication and cooling systems. Emphasis on identification of components, measurements, inspections, and repair methods. Prerequisite: AUMT 1405.		
<b>AUMT 2337</b>	<b>Automotive Electronics</b>	<b>2-4-3</b>
Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. Prerequisites: AUMT 1407.		

<b>AUMT 2413</b>	<b>Automotive Drive Train and Axles</b>	<b>2-6-4</b>
A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on the diagnosis and repair. Prerequisite: AUMT 1405.		
<b>AUMT 2417</b>	<b>Automotive Engine Performance Analysis I</b>	<b>2-7-4</b>
Theory, operation, diagnosis of drivability concerns, and repair ignition and fuel delivery systems. Use of current engine performance diagnostic equipment. Prerequisites: AUMT 2337.		
<b>AUMT 2425</b>	<b>Automotive Automatic Transmission and Transaxle</b>	<b>2-6-4</b>
A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions/transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and repair techniques. Prerequisite: AUMT 2413.		
<b>AUMT 2434</b>	<b>Automotive Engine Performance Analysis II</b>	<b>2-7-4</b>
Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems. Includes use of advanced engine performance diagnostic equipment. Prerequisites: AUMT 2417.		
<b>AUMT 2488</b>	<b>Internship - Automobile/Automotive Mechanics Technology/Technician</b>	<b>0-19-4</b>
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 employer. Prerequisite: Department approval required.		

## **AVIM Aviation Science (N) see also AIRP**

<b>AVIM 2331</b>	<b>Airline Management</b>	<b>3-0-3</b>
An examination of the organization, operation, and management of airlines. Topics include financing, aircraft selection, route feasibility studies, load factors, and marketing.		

## **BCIS Computer Information Technology and Systems (T) see also CETT, COSC, CPMT, ELMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY**

<b>BCIS 1305</b>	<b>Business Computer Applications</b>	<b>2-4-3</b>
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. (BCIS 1305 is included in the Business Field of Study.) Prerequisites: None		

## **BIOL Biology (T)**

<b>BIOL 1322</b>	<b>Nutrition and Diet Therapy I</b>	<b>3-0-3</b>
This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed. This course does not fulfill the Science requirement necessary for the completion of the Core Curriculum, the Associate of Science degree and the Associate of Arts degree.		
<b>BIOL 1406</b>	<b>Biology for Science Majors I</b>	<b>3-3-4</b>
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. Course includes laboratory activities. Prerequisite: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course. Co-requisite BIOX 1406. Recommended prerequisite: Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended. TSI Skills: R, M.		
<b>BIOL 1407</b>	<b>Biology for Science Majors II</b>	<b>3-3-4</b>
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. Course includes laboratory activities. Prerequisite: Appropriate placement score or completion of the appropriate level of Developmental Studies course. Co-requisite: BIOX 1407. Recommended prerequisite: Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended. Note: It is recommended that BIOL 1406 be taken before BIOL 1407. TSI Skills: R, M.		
<b>BIOL 1408</b>	<b>Biology for Non-Science Majors I</b>	<b>3-3-4</b>
This lecture and lab course provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Co-requisite: BIOX 1408.		
<b>BIOL 1409</b>	<b>Biology for Non-Science Majors II</b>	<b>3-3-4</b>
This course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Course objectives will be met in lecture and laboratory. Pre-requisite: none. Co-requisite: BIOX 1409.		
<b>BIOL 1411</b>	<b>General Botany</b>	<b>3-3-4</b>
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.) Laboratory activities will reinforce fundamental biological concepts relevant to the course material. Recommended prerequisite: Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended. Co-requisite: BIOX 1411. Completion of BIOL 1406 is recommended prior to enrollment in this course. TSI Skills: R, M.		



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**BIOL 1413 General Zoology 3-3-4**  
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.) Lab activities will reinforce concepts discussed in lecture. Co-requisite: BIOX 1413. Recommended prerequisite: Successful completion of College Algebra or concurrent enrollment in higher level mathematics is recommended. TSI Skills: R, M.

**BIOL 2401 Anatomy and Physiology I 3-3-4**  
Anatomy and Physiology I is the first part of a two course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. Hands-on learning experiences will be provided through laboratory activities. Co-requisite: BIOX 2401. Appropriate placement exam reading score or successful completion of a reading intensive course with a "C" or better. Completion of BIOL 1406 is strongly recommended. TSI Skills: R, M.

**BIOL 2402 Anatomy and Physiology II 3-3-4**  
Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. Hands-on learning experiences will be provided through laboratory activities. Prerequisite: BIOL 2401 with a grade of "C" or better; must have been taken within the last five years. Completion of BIOL 1406 is strongly recommended. Co-requisite: BIOX 2402.

**BIOL 2420 Microbiology for Non-Science Majors 3-3-4**  
This course covers basic microbiology and immunology and is primarily directed at pre-nursing, pre-allied health, and non-science majors. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health. Basics of culture and identification of bacteria and microbial ecology will be covered in laboratory activities. Completion of BIOL 1406 is strongly recommended. Co-requisite BIOX 2420. TSI Skills: R, M.

**BIOL 2421 Microbiology for Science Majors 3-3-4**  
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. Lab activities will reinforce concepts discussed in lecture. Prerequisite: CHEM 1411 and (BIOL 1406 and BIOL 1407) OR (BIOL 1411 AND BIOL 1413). Co-requisite BIOX 2421.

## **BMGT Business Administration and Management (N) see also BUSG, HRPO and MRKG**

**BMGT 1301 Supervision 3-0-3**  
A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

**BMGT 1313 Principles of Purchasing 3-0-3**  
The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, supply chain management, negotiation techniques, and ethical issues in purchasing.

**BMGT 1325 Office Management 3-0-3**  
Systems, procedures, and practices related to organizing and planning office work, supervising employees' performance, and exercising leadership skills.

**BMGT 1327 Principles of Management 3-0-3**  
Concepts, terminology, principles, theory, and issues that are in the field of management.

**BMGT 2370 Management Applications I 1-5-3**  
A management laboratory that emphasizes management decision-making skills that are necessary for the modern manager to successfully deal with resource problems in the work place and career field. The course is designed for students desiring to further their management training by applied learning techniques utilizing decision-making case studies, computer-assisted models, or other instructional techniques. It serves as a program Capstone for those students whose situation precludes an internship. The course may be repeated (if topics and learning outcomes vary). Note: Should be taken during the last semester of a certificate program or at about the halfway point in a degree plan. Prerequisite: Consent of the Department Chair.

**BMGT 2371 Management Applications II 1-5-3**  
A management laboratory that emphasizes management decision-making skills that are necessary for the modern manager to successfully deal with resource problems in the work place and career field. The course is designed for students desiring to further their management training by applied learning techniques utilizing decision-making case studies, computer-assisted models, or other instructional techniques. It serves as a program Capstone for those students whose situation precludes an internship. Prerequisite: BMGT 2370 and Consent of the Department Chair.

**BMGT 2488 Internship - Business Administration and Management, General 0-19-4**  
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Consent of the Department Chair.

**BMGT 2489 Internship - Business Administration and Management, General 0-19-4**  
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. Prerequisites: BMGT 2488 and Consent of the Department Chair.

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## **BUSG Business Administration and Management (N) see also BMGT, HRPO and MRKG**

**BUSG 1303 Principles of Finance 3-0-3**  
Financial dynamics of a business. Includes monetary and credit theory, cash inventory, capital management, and consumer and government finance. Emphasizes the time value of money.

**BUSG 1315 Small Business Operations 3-0-3**  
Central Campus Only. A course in the unique aspects of operating a small business. Emphasizes management functions including planning, heading, organizing, staffing and controlling Net Impact operations. Members of the organization that participate during the entire training program and document a minimum of 50 hours of active participation, can be awarded credit for this course with the approval of the Net Impact Faculty Advisor.

**BUSG 1370 Small Business Accounting 3-0-3**  
A course designed to introduce small business owners to basic accounting/financial information necessary to the successful operation of a business. Topics covered include, but are not limited to, cost behavior, cost-volume-profit relationships, budgeting, relevant cost, pricing decisions, payroll accounting and taxes.

**BUSG 1371 Entrepreneurship and Business Plan Development 3-0-3**  
Involves the development and presentation of a plan to create or expand a business. It provides the student with an opportunity to develop and demonstrate a mastery of the essential competencies required for business opportunity analysis, the development of a marketing plan, and the development of a business financial plan. Students will prepare a business plan for a business that they want to develop or expand.

**BUSG 2305 Business Law/Contracts 3-0-3**  
Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

**BUSG 2309 Small Business Management 3-0-3**  
A course on starting, operating and growing a small business. Topics include facts about a small business, essential management skills, how to prepare a business plan, accounting, financial needs, staffing, marketing strategies and legal issues.

## **BUSI Business Administration and Management (T)**

**BUSI 1301 Business Principles 3-0-3**  
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.

**BUSI 1307 Personal Finance 3-0-3**  
Personal and family accounts, budgets and budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting or home ownership, and wills and trust plans.

**BUSI 2301 Business Law 3-0-3**  
The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics, contracts, sales, torts, agency law, intellectual property, and business law in the global context.

**BUSI 2305 Business Statistics 3-0-3**  
Descriptive and inferential statistical techniques for business and economic decision-making. Topics include the collection, description, analysis, and summarization of data; probability; discrete and continuous random variables; the binomial and normal distributions; sampling distributions; tests of hypotheses; estimation and confidence intervals; linear regression; and correlation analysis. Statistical software is used to analyze data throughout the course. Prerequisite: MATH 1314 or MATH 1324 and BCIS 1305

## **CBFM Construction Technology (N) see also CNBT, ELPT, MBST, PFPB, and WDWK**

**CBFM 1334 Interior and Exterior Painting and Refinishing 2-4-3**  
Interior and exterior painting and refinishing for commercial and residential applications. Prerequisite: CRPT 1429.

**CBFM 2487 Internship—Building/Property Maintenance and Manager 0-19-4**  
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 employer. Prerequisite: Department approval required.

## **CDEC Child Development (N)**

**CDEC 1303 Families, School and Community 3-1-3**  
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.

<b>CDEC 1311</b>	<b>Educating Young Children</b>	<b>3-1-3</b>
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.		
<b>CDEC 1318</b>	<b>Wellness of the Young Child</b>	<b>3-1-3</b>
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.		
<b>CDEC 1321</b>	<b>The Infant and Toddler</b>	<b>3-1-3</b>
A study of appropriate infant and toddler programs (birth to 3 years) , including an overview of development, quality routines, learning environments, materials and activities, and teaching/guidance techniques. 16 lab hours required.		
<b>CDEC 1354</b>	<b>Child Growth &amp; Development</b>	<b>3-0-3</b>
Physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence.		
<b>CDEC 1356</b>	<b>Emergent Literacy for Early Childhood</b>	<b>3-1-3</b>
An exploration of principles, methods, and materials for teaching language and literacy through a play-based, integrated curriculum to children from birth through age eight. 16 lab hours required.		
<b>CDEC 1358</b>	<b>Creative Arts for Early Childhood</b>	<b>3-1-3</b>
An exploration of principles, methods, and materials for teaching music, movement, visual arts, and dramatic play through process-oriented experiences to support divergent thinking for children from birth through age eight. 16 lab hours required.		
<b>CDEC 1359</b>	<b>Children with Special Needs</b>	<b>3-1-3</b>
A survey of information regarding children with special needs including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, and the advocacy role and legislative issues. 16 lab hours required.		
<b>CDEC 1413</b>	<b>Curriculum Resources for Early Childhood Programs</b>	<b>3-2-4</b>
A study of the fundamentals of developmentally appropriate curriculum design and implementation in early care and education programs for children birth through age 8. 32 lab hours required.		
<b>CDEC 1417</b>	<b>Child Development Associate Training I</b>	<b>3-2-4</b>
Based on the requirements for the Child Development Associate credential (CDA). Topics include CDA overview, observation skills, and child growth and development. The four functional areas of study are creative, cognitive, physical, and communication. 32 hour lab required.		
<b>CDEC 1419</b>	<b>Child Guidance</b>	<b>3-2-4</b>
An exploration of guidance strategies for promoting pro-social behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. 32 lab hours required.		
<b>CDEC 2307</b>	<b>Math &amp; Science for Early Childhood</b>	<b>3-1-3</b>
An exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play. 16 lab hours required.		
<b>CDEC 2341</b>	<b>The School Age Child</b>	<b>3-1-3</b>
A study of programs for the school age child, including an overview of development, learning environments, materials, activities and guidance techniques. 16 lab hours required.		
<b>CDEC 2388</b>	<b>Internship Child Care Provider/Assistant</b>	<b>0-9-3</b>
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. Student's final course. 144 work-based or volunteer lab experience in an approved facility, final course taken.		
<b>CDEC 2422</b>	<b>Child Development Associate Training II</b>	<b>3-2-4</b>
A continuation of the study of the requirements for the Child Development Associate Credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social, and guidance.32 hour lab required.		
<b>CDEC 2424</b>	<b>Child Development Associate Training III</b>	<b>3-2-4</b>
Continuation of the requirements for the Child Development Associate credential (CDA). The three functional areas of study include family, program management and professionalism. 32 hour lab required.		
<b>CDEC 2426</b>	<b>Administration of Programs for Children I</b>	<b>3-2-4</b>
Application of management procedures for early care and education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication. Prerequisite: Six hours of Child Development coursework. 32 lab hours required.		

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**CETT Computer Information Technology and Systems (N)** see also BCIS, COSC, CPMT, ELMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY

<b>CETT 1303 DC Circuits</b>	<b>2-4-3</b>
A study of the fundamentals of direct current including Ohm's law, Kirchoff's laws and circuit analysis techniques. The aim of the course is to acquaint the student with the basic vocabulary of electronic circuits and to help them understand the relationship between voltage, current, power, and resistance. The student will be able to identify the basic circuit components, their schematic symbols and their proper function in electrical circuits. Prerequisite: None	
<b>CETT 1305 AC Circuits</b>	<b>2-4-3</b>
A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance. This is a study of single and poly-phase AC circuits and the use of Kirchoff's Laws as well as Thevenin's, Norton's, and Superposition theorems in analyzing these circuits. Prerequisite: CETT 1303 DC Circuits.	
<b>CETT 1321 Electronic Fabrication</b>	<b>2-4-3</b>
A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding, and various soldering techniques. Prerequisite: None <i>Scheduled for December 2020 deactivation</i>	
<b>CETT 1325 Digital Fundamentals</b>	<b>2-4-3</b>
An entry level course in digital electronics covering numbering systems, logic gates, Boolean algebra, and combinational logic. Prerequisite: None	
<b>CETT 1331 Programming for Discrete Electronic Devices</b>	<b>2-4-3</b>
Introduction to a high level programming language. Includes structured programming and problem solving applicable to discrete electronic devices. Prerequisite: CETT 1325. <i>Scheduled for December 2020 deactivation</i>	
<b>CETT 1429 Solid State Devices</b>	<b>3-3-4</b>
A study of diodes, transistor characteristics and other semiconductor devices, including analysis of static and dynamic characteristics, biasing techniques, and thermal considerations. Prerequisite: CETT 1305 or concurrent enrollment.	
<b>CETT 1441 Solid State Circuits</b>	<b>3-3-4</b>
A study of various semiconductor devices incorporated in circuits and their applications. Emphasis on circuit construction, measurements, and analysis. Prerequisite: CETT 1429. <i>Scheduled for December 2020 deactivation</i>	
<b>CETT 1449 Digital Systems</b>	<b>3-3-4</b>
A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems. This course includes a detailed study of various Integrated Devices currently on the market. It will included devices developed as general purpose as well as those designed for specified job-type applications. Prerequisite: CETT 1325 <i>Scheduled for December 2020 deactivation</i>	
<b>CETT 2335 Advanced Microprocessors</b>	<b>2-4-3</b>
An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing. Prerequisite: CETT 1331. <i>Scheduled for December 2020 deactivation</i>	
<b>CETT 2489 Internship-Computer Engineering Technology/Technician</b>	<b>0-19-4</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Department approval required. <i>Scheduled for December 2020 deactivation</i>	

**CHEF Hospitality Management (N)** see also HAMG, IFWA, PSTR, RSTO and TRVM

<b>CHEF 1301 Basic Food Preparation</b>	<b>1-5-3</b>
A study of the fundamental principles of food preparation and cookery to include Brigade System, cooking techniques, material handling, heat transfer, sanitation, safety, nutrition, and professionalism. National Restaurant Association (NRA) Food Production Certificate Examination.	
<b>CHEF 1302 Principles of Healthy Cuisine</b>	<b>1-5-3</b>
Introduction to the principles of planning, preparation, and presentation of nutritionally balanced meals. Alternative methods and ingredients will be used to achieve a healthier cooking style. Prerequisite: CHEF 1301.	
<b>CHEF 1305 Sanitation and Safety</b>	<b>3-0-3</b>
A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards.	
<b>CHEF 1310 Garde Manger</b>	<b>2-4-3</b>
A study of cold foods and garnishes. Emphasis on design, techniques, and display of fine foods. Prerequisite: CHEF 1301.	
<b>CHEF 1341 American Regional Cuisine</b>	<b>2-4-3</b>
A study of the development of regional cuisine in the United States with emphasis on the similarities in production and service systems. Application of skills to develop, organize, and acquire knowledge of recipe strategies and production systems. Prerequisite: CHEF 1301.	
<b>CHEF 1345 International Cuisine</b>	<b>2-4-3</b>
The study of classical cooking skills associated with the preparation and service of international and ethnic cuisine. Topics include similarities between food production systems used in the United States and other regions of the world. Prerequisite: CHEF 1301.	

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**CHEF 2301 Intermediate Food Preparation 2-4-3**  
Continuation of previous food preparation course. Topics include the concept of pre-cooked food items, as well as scratch preparation. Covers full range of food preparation techniques. Prerequisite: CHEF 1301.

**CHEF 2302 Saucier 2-4-3**  
Instruction in the preparation of stocks, soups, classical sauces, contemporary sauces, accompaniments, and the pairing of sauces with a variety of foods. Prerequisite: CHEF 1301.

## **CHEM Chemistry (T)**

**CHEM 1406 Introductory Chemistry I 3-3-4**  
This course is a survey of the fundamentals of general chemistry with applications from medicine, modern living, agriculture, and the environment. This course is designed for non-science majors who need a lab science credit, for nursing students seeking a B.S. degree or background for physiology, and also for students who have very little or no chemical background. Lab activities will reinforce concepts discussed in lecture. Prerequisite: Appropriate placement score or completion of the appropriate level of Developmental Studies course. Co-requisite: CHEX 1406. TSI Skills: M.

**CHEM 1407 Introductory Chemistry II 3-3-4**  
A survey of the fundamentals of organic and biochemistry for non-science majors or nursing students interested in the processes of life. Basic principles, nomenclature, principle reactions and methods of synthesis, and the major classes of physiologically important compounds are studied. Lab activities will reinforce concepts discussed in lecture. Co-requisite: CHEX 1407. TSI Skills: M.

**CHEM 1411 General Chemistry I 3-3-4**  
The first of two courses covering the 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. Emphasis is placed on problem solving. Lab activities will reinforce concepts discussed in lecture. Prerequisite: Student must have completed MATH 1314 with a grade of "C" or better within the last 5 years. Co-requisite: CHEX 1411. High school chemistry is strongly recommended.

**CHEM 1412 General Chemistry II 3-3-4**  
The second of two courses covering the fundamental principles of chemistry for majors in the sciences, health sciences, and engineering. Topics include chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry. Emphasis is placed on problem solving. Lab activities will reinforce concepts discussed in lecture. Prerequisite: CHEM 1411. Co-requisite: CHEX 1412.

**CHEM 2423 Organic Chemistry I 3-4-4**  
The first of two courses designed to provide a foundation in organic chemistry. 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. Lab activities will reinforce concepts discussed in lecture. Prerequisites: CHEM 1411 and CHEM 1412. Co-requisite: CHEX 2423.

**CHEM 2425 Organic Chemistry II 3-4-4**  
As a continuation of CHEM 2423, this course involves a more in-depth study of some of the topics covered in CHEM 2423. 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. Lab activities will reinforce concepts discussed in lecture. Prerequisite: CHEM 2423. Co-requisite: CHEX 2425.

## **CHLT Community Health (N)**

**CHLT 1301 Introduction to Community Health 3-0-3**  
Designed to provide a basic understanding of variables that affect health sectors in the community.

**CHLT 1302 Wellness and Health Promotion 3-0-3**  
Overview of wellness theory and its application throughout the life span. Focus is on attitude development, impact of cultural beliefs, and communication of wellness. Includes health behavior theories and approaches to behavior modification.

**CHLT 1340 Community Health Advocacy 3-0-3**  
Study of local, regional, and national health care resources. Identification of health organizations, support groups, and health care delivery systems to be used for client referral. Activities include visits to various local agencies and attendance/participation in related activities.

**CHLT 1341 Environmental Health 3-0-3**  
Survey of ecological principles and their application to the health and safety of physical and social environments, occupational settings, and human beings. Site visits to specific living quarters or occupational settings and measurement of environmental safety factors addressed.

**CHLT 1342 Community Health Field Methods 3-0-3**  
Preparation for field work with individuals, families, and groups emphasizing teaching and capacity-building skills. Topics include outreach methods, area canvassing, home visiting, group work, community events, and community organizing.

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**CHLT 1391 Special Topics in Community Health 3-0-3**  
Topics address recently identified current events, skills, knowledges, 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.

**CHLT 2367 Practicum - Community Health Services 0-21-3**  
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **CJCR Criminal Justice (N) See also CJLE and CJSA**

**CJCR 1304 Probation and Parole 3-0-3**  
A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines.

**CJCR 1307 Correctional Systems and Practices 3-0-3**  
Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues.

**CJCR 1358 Rights of Prisoners 3-0-3**  
Analysis of the legal rights of the convicted offender incarcerated in state and federal penal institutions. Emphasis on constitutional principles, case law, and federal and state statutes concerning prisoner rights.

**CJCR 1391 Special Topics in Corrections/Correctional Administration 3-0-3**  
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.

**CJCR 1400 Basic Jail Course 4-1-4**  
Provides instruction in human relations; observation; evaluation of prisoners, booking procedures; classification; mug shots; fingerprinting, strip searches; meals, medical services, visitation; inmates rights and privileges; detention areas; key; knife and tool control; disturbances; riots; fire procedures; and release procedures. Taught in accordance with the current TCLEOSE instructor guides provided by the Commission for course #1005.

**CJCR 2324 Community Resources in Corrections 3-0-3**  
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.

**CJCR 2325 Legal Aspects of Corrections 3-0-3**  
A study of the operation, management, and legal issues affecting corrections. Analysis of constitutional issues involving rights of the convicted, as well as civil liability of correctional agencies and staff.

**CJCR 2466 Practicum (or Field Experience) Corrections/Correctional Administration 0-28-4**  
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: Consent of the Department Chair.

## **CJLE Criminal Justice (N) see also CJCR and CJSA**

**CJLE 1211 Basic Firearms 1-2-2**  
Instruction in firearm safety, cleaning and care techniques, proper shooting principles, and proficiency with a handgun and shotgun. Prerequisite: Department approval required.

**CJLE 1333 Traffic Law and Investigation 3-0-3**  
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.

**CJLE 1345 Intermediate Crime Scene Investigation 3-0-3**  
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.

**CJLE 1429 Basic Peace Officer V 2-6-4**  
Supplemental course taken in conjunction with Basic Peace Officer Courses I, II, III, and IV. Satisfies or exceeds the Texas Commission on Law Enforcement approved Basic Peace Officer Academy Course #1000. This course may be offered only by institutions licensed as Police Academy by Texas Commission on Law Enforcement.

**CJLE 1506 Basic Peace Officer I 3-7-5**  
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer II, III, IV, and V (supplement) to satisfy the Texas Commission on Law Enforcement approved Basic Peace Officer Training Academy. This course may be offered only by institutions licensed as Police Academy by Texas Commission on Law Enforcement.

**CJLE 1512 Basic Peace Officer II 3-7-5**  
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, III, IV, and V (supplement) to satisfy the Texas Commission on Law Enforcement approved Basic Peace Officer Academy. This course may be offered only by institutions licensed as Police Academy by Texas Commission on Law Enforcement.

<b>CJLE</b>	<b>1518</b>	<b>Basic Peace Officer III</b>	<b>3-7-5</b>
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, II, IV, and V (supplement) to satisfy the Texas Commission on Law Enforcement approved Basic Peace Officer Academy. This course may be offered only by institutions licensed as Police Academy by Texas Commission on Law Enforcement.			
<b>CJLE</b>	<b>1524</b>	<b>Basic Peace Officer IV</b>	<b>3-8-5</b>
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, II, III, and V (supplement) to satisfy the Texas Commission on Law Enforcement approved Basic Peace Officer Training Academy. This course may be offered only by institutions licensed as Police Academy by Texas Commission on Law Enforcement.			
<b>CJLE</b>	<b>2345</b>	<b>Vice and Narcotics Investigation</b>	<b>3-0-3</b>
Study of various classifications of commonly used narcotics, dangerous drugs, gambling, sex crimes, fraud, gangs, and investigative techniques; and identify proper interdiction procedures and techniques.			
<b>CJLE</b>	<b>2486</b>	<b>Internship-Criminal Justice/Police Science</b>	<b>0-19-4</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Consent of the Department Chair.			
<b>CJSA Criminal Justice (N) see also CJCR and CJLE</b>			
<b>CJSA</b>	<b>1170</b>	<b>Alcohol Awareness/Intervention</b>	<b>1-0-1</b>
This course will provide the student with a basic overview of alcohol as a drug of abuse and the methodology for developing an action plan of intervention at a local level. Focus on alcohol fueled offenses and problems, identifying and dealing with alcohol abusers and the criminal justice implications of alcohol related convictions.			
<b>CJSA</b>	<b>1171</b>	<b>Police Brutality</b>	<b>1-0-1</b>
This course will provide students with basic information about the excessive use of force by police. The police have the right to use force to subdue criminals; even deadly force is authorized in certain situations. This course addresses what triggers the excessive use of force, what the consequences are to the police and society when this happens, and how it can be prevented.			
<b>CJSA</b>	<b>1173</b>	<b>Drug Recognition for Law Enforcement</b>	<b>1-0-1</b>
The course will provide the student with the basics of the most common controlled substances a law enforcement officer will encounter. The student will gain knowledge of classifications of, identification of, and effects of "street drugs".			
<b>CJSA</b>	<b>1174</b>	<b>Terrorism as a Strategy</b>	<b>1-0-1</b>
The course will consider the definition of terrorism and its place in the spectrum of political violence as well as comparing different classifications of insurgency. The course will introduce students to how terrorism is used as a strategy of insurgency and how it is a strategy based on the psychological impact.			
<b>CJSA</b>	<b>1175</b>	<b>Investigation of Sexual Abuse</b>	<b>1-0-1</b>
This course discusses the different formats used to investigate the crime of sexual assault. It includes strategies to investigate sexual assault, interview victims and witnesses, document evidence in accordance with state laws, and conduct case studies.			
<b>CJSA</b>	<b>1176</b>	<b>Introduction to Gangs and Gang Infiltration of the Military</b>	<b>1-0-1</b>
This course offers an introduction to gangs in America and the infiltration of gangs in the United States military. Topics include gang identification, the role of the criminal justice system and the community in suppressing, intervening and preventing gang activity, how and why gang members join the military and the impact of gangs on the military.			
<b>CJSA</b>	<b>1177</b>	<b>International Criminal Justice</b>	<b>1-0-1</b>
This course will provide an introduction to the history, policy, and practices of criminal justice in an international environment. The history of the development of the laws and judicial structures that serve to administer international criminal justice will be examined, particularly post World War II. The agencies involved in international criminal justice, from INTERPOL to the Federal Bureau of Investigation, will be studied as will the differing policing practices in particular comparative cases. Specific attention will be paid to the international issues arising for criminal justice practitioners in both domestic and foreign jurisdictions and the bodies of international law that will affect a criminal justice practitioner. Finally, the 21st Century international terrorist threat will be studied for its effects on the practice of criminal justice in civil and military contexts.			
<b>CJSA</b>	<b>1178</b>	<b>Criminal Deviance</b>	<b>1-0-1</b>
This course is an examination of criminal behavior with a special emphasis on the deviation from societal norms. The course will discuss ideas about crime, criminal intent, and criminal motivation. The course offers a survey of theories and research on the rationality of criminal behavior and stimulus of offenders. The course also offers a review of the social response to criminal behavior.			
<b>CJSA</b>	<b>1192</b>	<b>Special Topics in Criminal Justice/Law Enforcement Administration</b>	<b>1-0-1</b>
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.			
<b>CJSA</b>	<b>1302</b>	<b>Private Security Officer Training</b>	<b>3-0-3</b>
A critical study of the provisions of the Texas Private Investigators and Private Security Agencies Act. Topics include the impact of the code on procedures and policies, judicial interpretation of statutes and related procedures, and rules and regulations. Satisfies the requirements for Commissioned Security Officer Skill Certification. Prerequisite: Consent of Department Chair.			

<b>CJSA 1308</b>	<b>Criminalistics I</b>	<b>3-0-3</b>
Introduction to the field of criminalistics. Topics include the application of scientific and technical methods in the investigation of crime including location, identification, and handling of evidence for scientific analysis.		
<b>CJSA 1312</b>	<b>Crime in America</b>	<b>3-0-3</b>
The study of American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and crime prevention.		
<b>CJSA 1313</b>	<b>Court Systems and Practices</b>	<b>3-0-3</b>
The judiciary in the criminal justice system; structure of the American court system; prosecution; right to counsel; pre-trial release; grand juries; adjudication process; types and rules of evidence, sentencing.		
<b>CJSA 1317</b>	<b>Juvenile Justice System</b>	<b>3-0-3</b>
A study of the juvenile justice process. Topics 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.		
<b>CJSA 1318</b>	<b>Court Management</b>	<b>3-0-3</b>
Exploration of operational issues in the administration of American courts. Topics include responsibilities of court personnel, records management, and organizational management topics.		
<b>CJSA 1322</b>	<b>Introduction to Criminal Justice</b>	<b>3-0-3</b>
The study of the 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.		
<b>CJSA 1327</b>	<b>Fundamentals of Criminal Law</b>	<b>3-0-3</b>
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.		
<b>CJSA 1342</b>	<b>Criminal Investigation</b>	<b>3-0-3</b>
Study of investigative theory, the collection and preservation of evidence, sources of information, concepts of interviewing and interrogation, the use of forensic sciences, case and trial preparation.		
<b>CJSA 1348</b>	<b>Ethics in Criminal Justice</b>	<b>3-0-3</b>
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.		
<b>CJSA 1351</b>	<b>Use of Force</b>	<b>3-0-3</b>
A study of the use of force including introduction to and statutory authority for the use of force, force options, deadly force, and related legal issues. Fulfills the TCLEOSE Use of Force Intermediate Certificate requirement.		
<b>CJSA 1359</b>	<b>Police Systems and Practices</b>	<b>3-0-3</b>
Exploration of the profession of police officer. Topics include organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues.		
<b>CJSA 1393</b>	<b>Special Topics in Criminal Justice Studies</b>	<b>3-0-3</b>
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.		
<b>CJSA 2300</b>	<b>Legal Aspects of Law Enforcement</b>	<b>3-0-3</b>
Exploration of police authority. Topics include responsibilities and constitutional constraints, law of arrest, search and seizure, and police liability.		
<b>CJSA 2302</b>	<b>Police Management, Supervision, and Related Topics</b>	<b>3-0-3</b>
Techniques and theories regarding dealing with people, their performance and problems. Topics include basic supervision, leadership, time management, first-line supervision, and management by objectives.		
<b>CJSA 2331</b>	<b>Child Abuse, Prevention and Investigation</b>	<b>3-0-3</b>
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.		
<b>CJSA 2488</b>	<b>Internship-Criminal Justice Safety Studies</b>	<b>0-19-4</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Consent of the Department Chair.		

**CMSW Mental Health Services (N) see also DAAC, PSYT and SCWK**

<b>CMSW 1166</b>	<b>Practicum (or Field Experience) - Clinical/Medical Social Work</b>	<b>0-8-1</b>
Practical, general workplace training supported by an individualized learning plan developed by the instructor and the student.		



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**CMSW 1167      Practicum (or Field Experience) - Clinical and Medical Social Work      0-10-1**  
This course provides the student with practical general training and experience in the workplace through assignment to a specific field placement site under the supervision of professionals from the host agency. This course is the Capstone Experience for students exiting the program with a Certificate or Associates in Applied Science (AAS) Degree in Mental Health Services with an At-Risk Youth Specialization, or an AAS with a Social Work Specialization. Prerequisites: Departmental Approval, CMSW 1309, DAAC 1319, DAAC 2354, PSYT 1329, PSYT 2321, PSYT 2331. See Mental Health Services admissions requirements.

**CMSW 1309      Problems of Children and Adolescents      2-4-3**  
Examine common problems and evaluate effective intervention models of at-risk children and youth. Topics include: social, family, educational systems impact, mental health, juvenile delinquency, teen sexuality, and addictive behaviors. Articulate common problems and characteristics of at-risk children and youth in the social, family, and educational systems; investigate intervention models; and describe juvenile laws.

## **CNBT Construction Technology (N) see also CBFM, CRPT, ELPT, MBST, PFPB and WDWK**

**CNBT 1446      Construction Estimating I      3-3-4**  
Fundamentals of estimating materials and labor costs in construction.

## **COMM Communications/Journalism (T)**

**COMM 1307      Introduction to Mass Communication      3-0-3**  
Survey of basic content and structural elements of mass media and their functions and influences on society.

**COMM 2305      Editing and Layout      2-2-3**  
Enables students to develop an understanding of the newsroom organization and the entire news/editorial process. Students perform copy editing for errors of fact, interpretation, and grammar. Emphasis is on developing a regard for accuracy and fairness in the editing and design process. Prerequisite: COMM 2311.

**COMM 2311      Media Writing      3-2-3**  
Fundamentals of writing news for the mass media. Includes instruction in professional methods and techniques for gathering, processing, and delivering content.

**COMM 2315      News Reporting      3-2-3**  
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. Prerequisite: COMM-2311 or consent of the Department Chair.

## **COMM Communication and Media Technology (T)**

**COMM 1335      Introduction to Electronic Media      3-0-3**  
An overview of the development, regulation, economics, social impact, and industry practices in electronic media.

**COMM 1336      Video Production I      3-3-3**  
Practical experience in the operation of studio and control room equipment, including both pre- and post-production needs.

**COMM 1337      Video Production II      3-3-3**  
Practical experience in the operation of television studio and control room equipment, including both pre- and post-production needs.

**COMM 2300      Media Literacy      3-0-3**  
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.

**COMM 2303      Audio Production      2-2-3**  
Practical experience in the operation of audio equipment, including both pre- and post-production needs.

**COMM 2324      Practicum in Electronic Media (Audio)      2-4-3**  
Study and practical experience in digital audio production systems and software including multi-track recording techniques, processing and special effects. Prerequisite: COMM 2303.

**COMM 2327      Introduction to Advertising      3-0-3**  
Fundamentals of advertising including marketing theory and strategy, copy writing, and selection of media.

**COMM 2331      Radio/Television Announcing      3-0-3**  
Principles of announcing: study of voice, diction, pronunciation, and delivery. Experience in various types of announcing. Study of phonetics will be included.

**COMM 2332      Radio/Television News      3-0-3**  
Preparation and analysis of news gathering and presentation styles for the electronic media.

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**COMM 2339 Writing for Radio, TV, and Film 3-0-3**

Introduction to basic script formats, terminology, and writing techniques, including the writing of commercials, public service announcements, promotional announcements, and other materials.

**COMM 2366 Film Appreciation 2-4-3**

Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures and cinema's impact on and reflection of society.

**COMM 2389 Academic Cooperative 0-9-3**

An instructional program designed to integrate on-campus study with practical hands-on work experience in a specific area of communication. Prerequisite: Consent of the Radio/TV Broadcasting Department Chair is required.

## **COSC Computer Information Technology and Systems (T) see also BCIS, CETT, CPMT, ELMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY**

**COSC 1301 Introduction to Computing 3-1-3**

Overview of computer systems—hardware, operating systems, and microcomputer application software, including the Internet, word processing, spreadsheets, presentation graphics, and databases. Current issues such as the effect of computers on society, and the history and use of computers in business, educational, and other modern settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science. Prerequisites: None

**COSC 1315 Introduction to Computer Programming 3-1-3**

Introduction to computer programming for solving a variety of problems. This course is intended for non-computer science and non-computer engineering majors. Emphasis on the fundamentals of design, development, testing, implementation, and documentation of computer programs. Includes problem solving with structured techniques and algorithms using pseudo code and/or graphical representations. Prerequisites: None

**COSC 1336 Programming Fundamentals I 2-4-3**

This course introduces the fundamental concepts of structured programming and provides a comprehensive introduction to programming for computer science and technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. (This course is included in the Field of Study Curriculum for Computer Science.) Prerequisite: COSC 1315.

**COSC 1337 Programming Fundamentals II 2-4-3**

This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.) Prerequisite: COSC 1336.

**COSC 2325 Computer Organization 2-4-3**

The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced. This course is included in the Field of Study Curriculum for Computer Science. Prerequisite: COSC 1336 or COSC 1315 or departmental approval.

**COSC 2336 Programming Fundamentals III 2-4-3**

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), searching, sorting, recursion, and algorithmic analysis. Advanced programming techniques including file access methods, data structures, modular programming, program testing and documentation. Programs will be implemented in an appropriate object oriented language. (This course is included in the Field of Study Curriculum for Computer Science.) Prerequisite: COSC 1337.

## **CPMT Computer Information Technology and Systems (N) see also BCIS, CETT, COSC, ELMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY**

**CPMT 1345 Computer Systems Maintenance 2-4-3**

A study of the components within a computer system. Development of testing and troubleshooting skills. Prerequisite: None.

## **CRIJ Criminal Justice (T)**

**CRIJ 1301 Introduction to Criminal Justice 3-0-3**

This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent, and impact of crime; criminal law; and justice agencies and processes.

**CRIJ 1306 Court Systems and Practices 3-0-3**

This course is a study of the court system as it applies to the structures, procedures, practices and sources of law in American courts, using federal and Texas statutes and case law.

**CRIJ 1307 Crime in America 3-0-3**

The study of American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime.

<b>CRIJ</b>	<b>1310</b>	<b>Fundamentals of Criminal Law</b>	<b>3-0-3</b>
This course is the study of criminal law including application of definitions, statutory elements, defenses and penalties using Texas statutes, the Model Penal Code, and case law. The course also analyzes the philosophical and historical development of criminal law and criminal culpability.			
<b>CRIJ</b>	<b>1313</b>	<b>Juvenile Justice System</b>	<b>3-0-3</b>
A study of the juvenile justice process. Topics 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.			
<b>CRIJ</b>	<b>2301</b>	<b>Community Resources in Corrections</b>	<b>3-0-3</b>
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.			
<b>CRIJ</b>	<b>2313</b>	<b>Correctional Systems and Practices</b>	<b>3-0-3</b>
This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.			
<b>CRIJ</b>	<b>2314</b>	<b>Criminal Investigation</b>	<b>3-0-3</b>
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.			
<b>CRIJ</b>	<b>2323</b>	<b>Legal Aspects of Law Enforcement</b>	<b>3-0-3</b>
Exploration of police authority. Topics include responsibilities and constitutional restraints, law of arrest, search and seizure, and police liability.			
<b>CRIJ</b>	<b>2328</b>	<b>Police Systems and Practices</b>	<b>3-0-3</b>
This course examines the establishment, role and function of police in a democratic society. It will focus on types of police agencies and their organizational structure, police-community interaction, police ethics, and use of authority.			
<b>CRPT Construction Technology (N) see also CBFM, CNBT, ELPT, MBST, PFPB and WDWK</b>			
<b>CRPT</b>	<b>1411</b>	<b>Roof Systems</b>	<b>3-4-4</b>
Principles of design and construction of a roof system incorporating gable, hip, valley and intersections. Emphasis given to safe work practices and the use and maintenance of tools and equipment. Prerequisite: CRPT 1429 and CRPT 1415.			
<b>CRPT</b>	<b>1415</b>	<b>Wall Systems</b>	<b>3-4-4</b>
Identification of components; construction of wall systems; safe work practices; and the use and maintenance of tools and equipment. Prerequisite: CRPT 1429 and CRPT 1423.			
<b>CRPT</b>	<b>1423</b>	<b>Floor Systems</b>	<b>3-3-4</b>
An introduction to common floor systems. Includes component identification; construction of a floor system; safe work practices; and the use and maintenance of tools and equipment. Prerequisite: CRPT 1429.			
<b>CRPT</b>	<b>1429</b>	<b>Introduction to Carpentry</b>	<b>3-3-4</b>
An introduction to the carpentry trade including safety, tools, equipment, terminology, and methods.			
<b>DAAC Mental Health Services (N) see also CMSW, PSYT and SCWK</b>			
<b>DAAC</b>	<b>1167</b>	<b>Practicum (or Field Experience) – Substance Abuse/Addiction Counseling</b>	<b>0-10-1</b>
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: See Mental Health Services admission requirement.			
<b>DAAC</b>	<b>1304</b>	<b>Pharmacology of Addiction</b>	<b>2-4-3</b>
This course provides an emphasis on the pharmacological effects of addiction, tolerance, dependence, cross addiction, drug interactions, withdrawal, and recovery; describing the psychological and physiological effects of substance use. Recommended: DAAC 1319 be taken concurrently.			
<b>DAAC</b>	<b>1309</b>	<b>Assessment Skill of Alcohol and Other Drug Addictions</b>	<b>2-4-3</b>
An exploration of the procedures and tools used to identify and assess a client's problems, strengths, deficits, and needs. Emphasis will be on practical application through the development of assessment documentation, case studies, and treatment plans. Prerequisites: DAAC 1304, DAAC 1319.			
<b>DAAC</b>	<b>1311</b>	<b>Counseling Theories</b>	<b>2-4-3</b>
This course is an examination of the major theories and current treatment modalities used in the field of counseling. Prerequisite: PSYT 1329. Recommended prerequisite: PSYC 2301.			
<b>DAAC</b>	<b>1319</b>	<b>Substance-Related &amp; Addictive Disorders</b>	<b>2-4-3</b>
An examination of the causes and consequences of addiction, the major drug classifications, and the counselor's code of ethics. Attention is given to family systems, special populations & diversity, prevention, intervention, & relapse prevention, and legal and professional issues in addiction counseling. An overview of competencies and requirements for licensure in Texas is covered. Recommended: DAAC 1304 to be taken concurrently.			

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<b>DAAC 2301</b>	<b>Therapeutic Communities in a Criminal Justice Setting</b>	<b>2-2-3</b>
The models of addiction counseling related to the treatment of incarcerated substance users are examined. This includes the application of ethical standards and laws that relate to addiction counseling. Information on relapse prevention and recovery programs is also covered. Prerequisites: DAAC 1304, DAAC 1309, DAAC 1319.		
<b>DAAC 2306</b>	<b>Substance Abuse Prevention I</b>	<b>2-2-3</b>
Identify evidence-based prevention strategies within a cultural context; identify risk and protective factors for substance use disorders; describe resources for prevention program planning; and explain program evaluation methods.		
<b>DAAC 2307</b>	<b>Addicted Family Intervention</b>	<b>2-4-3</b>
Examination of family systems focusing on the effects of addiction and recovery. Describe the effects of addiction on the family system; differentiate between various family treatment processes; identify the impact of addictive behaviors as they relate to diverse family structures; and analyze the roles of the family members in the addictive and recovery process. Therapeutic alternatives as they relate to the family from a multicultural and trans-generational perspective will be addressed. Prerequisite: DAAC 1319.		
<b>DAAC 2341</b>	<b>Counseling Alcohol and Other Drug Addictions</b>	<b>2-4-3</b>
This course is an advanced examination of skills, confidentiality and ethical guidelines applied in the counseling, treatment and recovery of substance use disorders. Required prerequisites: Departmental Approval, DAAC 1304, DAAC 1309, DAAC 2354, CMSW 1309, PSYT 1329, PSYT 2321, PSYT 2331.		
<b>DAAC 2353</b>	<b>Substance Abuse Prevention II</b>	<b>2-2-3</b>
In-depth exploration of research, evaluation methods and best practices in prevention program design.		
<b>DAAC 2354</b>	<b>Dynamics of Group Counseling</b>	<b>2-4-3</b>
Exploration of group counseling skills, techniques, and stages of group development, and confidentiality and ethics. Differentiate types of groups; describe the basic stages of the group process; demonstrate group management skills; produce client documentation; and identify issues of confidentiality. Prerequisites: Departmental Approval, CMSW 1309, DAAC 1304, DAAC 1319, PSYT 1329, PSYT 2321, PSYT 2331. Recommended prerequisite: PSYC 2301.		
<b>DAAC 2367</b>	<b>Practicum (or Field Experience) – Substance Abuse/Addiction Counseling</b>	<b>0-22-3</b>
This advanced placement helps students gain practical experience in the discipline, enhances skills, and integrates knowledge gained from the classroom. Direct supervision at an advanced level is provided by clinical professionals at the host agency. This course is the Capstone Experience for students exiting the program with a Certificate or Associates in Applied Science (AAS) Degree in Chemical Dependency Counseling and the Certificate in Criminal Justice Addictions. Prerequisites: Departmental Approval, CMSW 1309, DAAC 1304, DAAC 1309, DAAC 1319, DAAC 2301, DAAC 2307, DAAC 2341, DAAC 2354, PSYT 1329, PSYT 2321, PSYT 2331. See Mental Health Services admission requirement.		

## **DEMR Diesel (N)**

<b>DEMR 1301</b>	<b>Shop Safety and Procedures</b>	<b>3-3-3</b>
A study of shop safety, rules, basic shop tools, and test equipment.		
<b>DEMR 1306</b>	<b>Diesel Engine I</b>	<b>2-4-3</b>
An introduction to the basic principles of diesel engines and systems.		
<b>DEMR 1330</b>	<b>Steering and Suspension I</b>	<b>2-4-3</b>
A study of design, function, maintenance, and repair of steering and suspension systems. Emphasis on troubleshooting and repair of failed components.		
<b>DEMR 1405</b>	<b>Basic Electrical Systems</b>	<b>2-7-4</b>
Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries. Prerequisites: DEMR 1306.		
<b>DEMR 1410</b>	<b>Diesel Engine Testing and Repair I</b>	<b>2-6-4</b>
An introduction to testing and repairing diesel engines including related systems specialized tools. Prerequisites: DEMR 1405.		
<b>DEMR 1416</b>	<b>Basic Hydraulics</b>	<b>2-7-4</b>
Fundamentals of hydraulics including components and related systems.		
<b>DEMR 1417</b>	<b>Basic Brake Systems</b>	<b>2-6-4</b>
Basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting. Prerequisite: DEMR 1405.		
<b>DEMR 1423</b>	<b>Heating, Ventilation and Air Conditioning, Troubleshooting and Repair</b>	<b>2-7-4</b>
Introduction to heating, ventilation, and air conditioning theory, testing, and repair. Emphasis on refrigerant reclamation, safety procedures, specialized tools, and repairs. Prerequisite: DEMR 1405.		
<b>DEMR 1447</b>	<b>Power Train II</b>	<b>3-3-4</b>
Continuation of fundamentals and theory of power train systems. Emphasis on disassembly, inspection, and repair of power train components.		
<b>DEMR 1449</b>	<b>Diesel Engine II</b>	<b>2-7-4</b>
An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines. Prerequisites: DEMR 2434.		

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**DEMR 2434 Advanced Diesel Tune-Up and Troubleshooting 2-7-4**  
Advanced concepts and skills required for tune-up and troubleshooting procedures of diesel engines. Emphasis on the science of diagnostics with a common sense approach. Prerequisites: DEMR 1410.

**DEMR 2488 Internship-Diesel Mechanics Technology/Technician 0-19-4**  
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 employer. Prerequisite: Department approval required.

## **DFTG Computer-Aided Drafting and Design (N) see also ARCE**

**DFTG 1358 Electrical/Electronics Drafting 2-4-3**  
A study of the principles of layout of electrical and electronic drawings, stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams. All drawing assignments will be computer generated. Prerequisite: DFTG 1409.

**DFTG 1405 Technical Drafting 3-3-4**  
Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, auxiliary views, and reproduction processes.

**DFTG 1409 Basic Computer-Aided Drafting 3-3-4**  
An introduction to basic computer-aided drafting. Emphasis is placed on drawing setup; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinating systems; as well as input and output devices. Prerequisites: DFTG 1405 or concurrent enrollment.

**DFTG 1417 Architectural Drafting - Residential 3-3-4**  
Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for a residential structure with emphasis on light frame construction methods. All drawing assignments will be computer generated. Prerequisite: DFTG 1409.

**DFTG 1491 Special Topics in Drafting and Design Technology/Technician General 2-4-4**  
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course will allow students to improve knowledge and skills in an area of interest or specialty through a research project.

**DFTG 2317 Descriptive Geometry 2-4-3**  
Examination of the graphical solution to problems involving points, lines, and planes in space. Prerequisite: DFTG 1405 or concurrent enrollment.

**DFTG 2323 Pipe Drafting 2-4-3**  
A study of pipe fittings, symbols, specifications and their applications to a piping process system. This application will be demonstrated through the creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics. All drawing assignments will be computer generated. Prerequisite: DFTG 1409.

**DFTG 2402 Machine Drafting 3-3-4**  
Production of detail and assembly drawings of machines, threads, gears, cams, tolerances and limit dimensioning, surface finishes, and precision drawings. Prerequisites: DFTG 1409.

**DFTG 2412 Technical Illustration and Presentation 3-3-4**  
Introduction to pictorial drawings as used in industrial catalogs, assembly sheets, newspaper publications and promotional literature. Topics include pictorial drawing including isometrics, oblique, perspectives, charts, and graphs, shading, and use of different media including pencil and ink. Prerequisite: DFTG 1405, or concurrent enrollment

**DFTG 2421 Topographical Drafting 3-3-4**  
A course in map drafting. Emphasis is given to plotting of surveyors field notes, plotting elevations, contour drawings, plan and profiles, and laying out traverses. All drawing assignments will be computer generated. Prerequisite: DFTG 1409.

**DFTG 2438 Final Project - Advanced Drafting 3-3-4**  
A general drafting course in which students participate in a simulated project. The process from conception to conclusion is studied. All work done in this class will typify actual industrial projects. An employment resume, cover letter, and portfolio will be completed as part of the course requirements. All projects will be completed with the use of Computer-Aided Drafting (AutoCAD). Prerequisites: DFTG 1358, DFTG 1405, DFTG 1409, DFTG 1417, DFTG 2317, DFTG 2402, DFTG 2412, DFTG 2440 and ARCE 1452.

**DFTG 2440 Solid Modeling/Design 3-3-4**  
A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work. Prerequisite: DFTG 1409.

## **DRAM Drama (T)**

**DRAM 1120 Theatre Practicum I 0-1-1**  
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

**DRAM 1310 Theater Appreciation 3-0-3**  
Survey of theater including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required. Prerequisite: None

<b>DRAM 1330</b>	<b>Stagecraft I</b>	<b>2-4-3</b>
Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound, and theatrical management. Prerequisite: None		
<b>DRAM 1341</b>	<b>Stage Makeup</b>	<b>2-4-3</b>
Design and execution of makeup for the stage performer. Includes discussion of basic makeup principles and practical experience of makeup application.		
<b>DRAM 1342</b>	<b>Costume Technology</b>	<b>2-4-3</b>
Introduction to the process and application of the fundamental skills of costume production, modification, and maintenance.		
<b>DRAM 1351</b>	<b>Acting I</b>	<b>2-4-3</b>
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. Prerequisite: None		
<b>DRAM 1352</b>	<b>Acting II</b>	<b>2-4-3</b>
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. Prerequisite: DRAM 1351 or Instructor Approval.		
<b>DRAM 2331</b>	<b>Stagecraft II</b>	<b>2-4-3</b>
Continued study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management.		
<b>DRAM 2336</b>	<b>Voice for the Actor</b>	<b>3-0-3</b>
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor's vocal instrument.		
<b>DRAM 2355</b>	<b>Script Analysis</b>	<b>3-0-3</b>
Examination of foundational skills for understanding the structure and content of play scripts for interpretation and conceptualization in theater productions by directors, designers, actors, and technicians. Introduces students to significant plays in the history of dramatic literature in the playwright's social and cultural context.		
<b>DRAM 2361</b>	<b>History of Theatre I</b>	<b>3-0-3</b>
Study of the history of theatre from primitive times through the Renaissance.		
<b>DRAM 2362</b>	<b>History of Theatre II</b>	<b>3-0-3</b>
Study of the history of the theatre from the Renaissance through today.		
<b>DRAM 2366</b>	<b>Film Appreciation</b>	<b>2-4-3</b>
Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema's impact on and reflection of society. Prerequisite: None		
<b>DRAM 2389</b>	<b>Academic Cooperative</b>	<b>2-4-3</b>
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 drama. This course is for students majoring in Drama or students with supportable aptitude in performance or production design. Prerequisite: Instructor approval.		

## DS— Developmental Studies

The credit received from these courses is not transferable and cannot be applied towards degree completion.

<b>DSED 0300</b>	<b>College Study Skills</b>	<b>3-0-3</b>
This course is designed to provide an opportunity for students to develop, select, and use strategies necessary in becoming prepared and successful in college and life. Emphasis in this particular course will be placed on the transference of high-level study skills to practical classroom situations and include the areas of time management, effective listening and note taking, concentration, learning through media, reading, retention of information, taking examinations, creativity, and leadership.		
<b>DSMA 0100</b>	<b>BASE NCBO Developmental Mathematics</b>	<b>1-0-1</b>
The BASE NCBO Developmental Mathematics supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. This course will assist the student in developing the critical-thinking and problem-solving skills necessary for college level mathematics courses. This intervention is designed specifically for students assessed at BASE levels 3-4 in the TSIA and must be part of a student's co-enrollment (co-requisite) in DSMA0300 Developmental Mathematics I. The intervention is a mainstreamed intensifier providing additional, just-in-time instructional support for the student's success in DSMA0300. Co-Requisite: DSMA 0300. Course requires a granted petition from the department; please email dev.studies@ctcd.edu for help.		

<b>DSMA 0101</b>	<b>Base NCBO Foundations of Algebra</b>	<b>1-0-1</b>
<p>The BASE NCBO Developmental Mathematics supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. This intervention is designed specifically for students assessed at BASE levels 3-4 in the TSIA and must be part of a student's co-enrollment in DSMA0491 NCBO Foundations of Algebra or DSMA0499 NCBO Developmental Mathematics. The intervention is a mainstreamed intensifier providing additional, just-in-time instructional support for the student's success in DSMA00491 or DSMA0499. This course will assist the student in developing the critical-thinking and problem-solving skills necessary for college level mathematics courses. Co-requisite: DSMA 0491 or DSMA 0499. Course requires a granted petition from the department; please email dev.studies@ctcd.edu for help.</p>		
<b>DSMA 0190</b>	<b>NCBO STEM Intermediate Algebra Topic</b>	<b>0-1-1</b>
<p>NCBO STEM Intermediate Algebra Topics is designed to help students successfully complete their freshman level STEM mathematics in one term. This is accomplished through just-in-time interventions that use innovative learning approaches that, compared to traditional lecture-only classes, more effectively and efficiently prepare students to advance to PreCalculus. This course specifically focuses on the algebra concepts necessary for the student to complete their first level STEM mathematics concurrently to include relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. Prerequisite: Department approval required.</p>		
<b>DSMA 0300</b>	<b>Developmental Mathematics I</b>	<b>4-0-3</b>
<p>Developmental Mathematics I is designed to help students make the transition from arithmetic to algebra. The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Additional topics include order of operations, problem solving with sales tax, commission, discounts, compound interest, etc. This course will assist the student in developing the critical-thinking and problem-solving skills necessary for other developmental or college-level courses. This course is required for students who have not achieved a passing score on the TSI Assessment. Successful completion of this course fulfills the prerequisite for the next higher developmental or co-requisite course run concurrently with the college-level mathematics course. This course has no prerequisite. Course requires a granted petition from the department; please email dev.studies@ctcd.edu for help.</p>		
<b>DSMA 0394</b>	<b>NCBO Developmental Math for Statistics</b>	<b>3-0-3</b>
<p>NCBO Developmental Math for Statistics is the developmental mathematics co-requisite course designed to be completed with MATH 1342 Elementary Statistical Methods concurrently. This is accomplished through developmental education interventions that use innovative learning approaches that, compared to traditional lecture-only classes, more effectively and efficiently prepare students to advance. This course specifically focuses on the concepts of Developmental Mathematics I &amp; II necessary for the student to complete Elementary Statistical Methods concurrently. The course includes an in-depth study and application of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. Additional topics include: creating &amp; interpreting graphs, solving &amp; graphing linear equations and inequalities. This course will assist the student in developing the critical-thinking and problem-solving skills necessary for other developmental or college-level courses. Concurrent Enrollment: MATH-1342</p>		
<b>DSMA 0399</b>	<b>NCBO Developmental Mathematics</b>	<b>3-1-3</b>
<p>This is a Non-Course-Based Option (NCBO) course, designed to accelerate the student through the developmental math. Emphasis is placed on those skills needed by the student to advance to a credit bearing mathematics course. This course is only offered in the evening in Summer.</p>		
<b>DSMA 0491</b>	<b>NCBO Foundations of Algebra</b>	<b>5-1-4</b>
<p>This is a Non-Course-Based-Option (NCBO) course, designed to accelerate the student through Developmental Math. This course is designed specifically for those students that can be successful in the lower levels of the mathematics sequence in a faster paced setting but still need the lecture component of the course. This course will develop the students' skills starting with arithmetic through basic algebra to include graphing and operations of polynomials. Lecture class: Students will be required to complete 16 hours in a computer lab outside of regular class time. Course requires a granted petition from the department; please email dev.studies@ctcd.edu for help.</p>		
<b>DSMA 0492</b>	<b>NCBO Beginning Algebra</b>	<b>3-1-4</b>
<p>This is a Non-Course-Based (NCBO) course, designed specifically for students through the developmental math while being concurrently enrolled in Contemporary Mathematics (MATH 1332). Emphasis is placed on those skills needed by the student to be successful in a paired-class.</p>		
<b>DSMA 0493</b>	<b>NCBO Intermediate Algebra</b>	<b>3-1-4</b>
<p>This is a Non-Course-Based-Option (NCBO) course, designed to accelerate the student through the developmental math while being concurrently enrolled in College Algebra (MATH 1314). Emphasis is placed on those skills needed by the student to be successful in a paired-course. Lecture class: Students will be required to complete 16 hours in a computer lab outside of regular class time. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.</p>		
<b>DSMA 0499</b>	<b>NCBO Developmental Mathematics</b>	<b>5-1-4</b>
<p>This is a Non-Course-Based-Option (NCBO) course, designed to accelerate the student through the developmental math. Emphasis is placed on those skills needed by the student to advance to a credit bearing mathematics course. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course. Course requires a granted petition from the department; please email dev.studies@ctcd.edu for help.</p>		
<b>DSRE 0302</b>	<b>Fundamentals of Reading I</b>	<b>3-0-3</b>
<p>Fundamentals of Reading I (DSRE 0302) is a fundamental reading course designed to aid students in acquiring and improving the basic skills needed for reading college-level materials. Emphasis will be on word attack skills, vocabulary development, comprehension, fluency, and study and test-taking skills. <b>(Offered at locations that do not have a lab facility)</b> Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.</p>		

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**DSRE 0303 Fundamentals of Reading II 3-0-3**  
Fundamentals of Reading II (DSRE 0303) is designed to aid students in developing and reinforcing the skills needed for reading college-level materials. This course was developed for those who have successfully completed Developmental Reading I (DSRE 0300 or DSRE 0302). Emphasis will be on vocabulary development, literal and critical comprehension skills, study and test taking skills, and fluency. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course. **(Offered at locations that do not have a lab facility)**

**DIRW 0200 Developmental Integrated Reading/Writing (BASE NCO) 2-0-2**  
The BASE NCBO Developmental Integrated Reading and Writing supports students in developing skills, strategies, and reasoning needed to succeed in English classes, including appropriate use of technology. Topics include the study of word attack skills, vocabulary development, comprehension, fluency, sentence and paragraph development, grammar and usage problems as they occur in the paragraphs, and study and test-taking skills. This intervention is designed specifically for students assessed at BASE levels 3-4 in the TSIA and must be part of a student's co-enrollment (co-requisite) in DSRE 0300 Developmental Reading I and/or DSWR 0301 Developmental Writing I. The intervention is a mainstreamed intensifier providing additional, just-in-time instructional support for the student's success in DSRE 0300 and/or DSWR 0301. This course will assist the student in developing the critical reading and academic writing skills necessary for college level English courses.

**DIRW 0403 Developmental Integrated Reading and Writing I 4-0-3**  
Developmental Integrated Reading and Writing I is designed to help students develop reading and writing skills necessary to read academic texts and write essays. This course supports students in developing skills, strategies, and reasoning needed to succeed in English classes, including appropriate use of technology. Topics include the study of word attack skills, vocabulary development, comprehension, fluency, sentence, paragraph, and essay development, grammar and usage problems as they occur in the essays, and study and test-taking skills. This course is designed specifically for students assessed at BASE levels 3-4 in the TSIA and must be part of a student's co-enrollment (co-requisite) in DIRW 0200 BASE NCBO Developmental Reading and Writing. This course will assist the student in developing the critical reading and academic writing skills necessary for college level English courses

**DIRW 0413 Developmental Integrated Reading and Writing II 3-1-4**  
The Integrated Reading and Writing course is designed to accelerate a student through Reading II and Writing II by combining both courses into a single semester course. Emphasis is placed on those reading and writing skills and abilities needed by the student for him or her to advance to a credit bearing English Composition course. DIRW 0413 is a prerequisite for ENGL 1301 for students who score below the college requirement set by the TSI. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.

**DIRW 0493 NCBO Integrated Reading and Writing II 4-0-4**  
NCBO Integrated Reading and Writing is a fundamental English language course designed to aid the student in acquiring the basic skills needed for college level reading and writing. This is accomplished through developmental education interventions that combine to effectively and efficiently prepare students to advance into college credit courses. Emphasis will be placed on reading comprehension, which focuses on literal, critical, and affective understanding of a variety of texts; and essay development, which focuses on structure, style, and usage. Students will also gain an appreciation of rhetorical situations by focusing on a writer's awareness and application of purpose, audience and tone. DIRW 0493 is a corequisite for any credit bearing reading/writing intensive course (i.e. ENGL 1301) for students who score below the college requirement set by the TSI. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.

## **DS— English for Speakers of Other Languages (ESOL)**

The credit received from these courses is not transferable and cannot be applied towards degree completion.

**DSED 0302 College (TOEFL) Study Skills for Foreign Students (ESOL) 3-1-3**  
This elective for ESOL students at levels 2 and 3 prepares students for the Test of English as a Foreign Language (TOEFL iBT), the test required for entry into most college-level institutions. Advanced reading, listening, speaking, writing, test-taking, and research techniques are taught. Prerequisites: Completion of all courses in Level I DSLA.

**DSL A 0310 Reading and Vocabulary I (ESOL) 4-1-3**  
This course is designed for beginning non-native speakers who need to develop basic vocabulary and reading skills such as identifying the main idea, locating details, and using word analysis to sound out new words. A laboratory is required.

**DSL A 0314 Writing I (ESOL) 4-1-3**  
This course, designed for intermediate non-native speakers, is a continuation of Grammar I. It covers grammatical structures, beginning with clauses in complex sentences. The course focuses on the development of correct simple, compound, and complex sentences; basic process paragraphs; and expository paragraphs. A laboratory is required. Prerequisite: DSLA 0315

**DSL A 0315 Grammar I (ESOL) 3-1-3**  
This course is for beginning-intermediate non-native speakers. It covers basic elements of English sentence structure and linguistic problem areas such as countable/uncountable nouns, articles, prepositions, phrasal verbs, word order, and simple sentence construction.

**DSL A 0320 Reading and Vocabulary II (ESOL) 4-1-3**  
This course, for intermediate non-native speakers, provides instruction in vocabulary, reading comprehension, structural analysis, and organizational patterns. A laboratory is required. Prerequisite: DSLA 0310.

**DSL A 0321 Writing II (ESOL) 4-1-3**  
This course is a continuation of Grammar I and Writing I. Students continue their study of grammar while learning to write narrative and persuasive paragraphs. A laboratory is required. Prerequisite: DSLA 0314.



<b>DSL A</b>	<b>0322</b>	<b>Academic Listening and Speaking II (ESOL)</b>	<b>4-1-3</b>
In this course, designed for intermediate non-native speakers, students develop beginning note-taking and speaking skills to prepare them for academic environments. A laboratory is required. Prerequisites: DSLA 0323.			
<b>DSL A</b>	<b>0323</b>	<b>Academic Listening and Speaking I</b>	<b>4-1-3</b>
This course, designed for beginning non-native speakers, moves students from aural language recognition to oral production through simple conversational dialogues and the use of dictation. This course focuses on fluency and accuracy. A laboratory is required.			
<b>DSL A</b>	<b>0330</b>	<b>Reading and Vocabulary III (ESOL)</b>	<b>4-1-3</b>
This course is a continuation of DSLA 0320, Reading and Vocabulary II, in the Certificate Program for English for Speakers of Other Languages. It provides advanced vocabulary acquisition and comprehension skills through the study of short stories and informational articles. A laboratory is required. Prerequisite: DSLA 0320.			
<b>DSL A</b>	<b>0332</b>	<b>Academic Listening and Speaking III (ESOL)</b>	<b>4-1-3</b>
In this course for advanced non-native speakers, students improve note taking, and oral reporting skills to prepare for college-level courses. Prerequisite: DSLA 0322.			
<b>DSL A</b>	<b>0340</b>	<b>Accent Reduction (ESOL)</b>	<b>3-1-3</b>
This course is designed for non-native speakers of English who, despite knowledge of English, experience difficulty in pronouncing words and phrases correctly. It consists of exercises to shape and articulate correct consonant and vowel sounds in words and phrases using English rhythm, intonation, and pitch patterns. This course will not result in accent-free speech, but it will improve the speaker's clarity and phrasing so that English speakers will more readily understand the non-native speaker. This course differs from DSLA 0323 in that it focuses on pronunciation rather than vocabulary acquisition. A laboratory is required. Prerequisites: DSLA 0323 Academic Listening and Speaking I. Offered on Central Campus only.			

## **ECON Economics (T)**

<b>ECON</b>	<b>2301</b>	<b>Principles of Macroeconomics</b>	<b>3-0-3</b>
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. TSI Skills: R.			
<b>ECON</b>	<b>2302</b>	<b>Principles of Microeconomics</b>	<b>3-0-3</b>
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. TSI Skills: R.			

## **EDUC Education (T) see also TECA**

<b>EDUC</b>	<b>1100</b>	<b>Learning Frameworks</b>	<b>1-0-1</b>
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.			
<b>EDUC</b>	<b>1301</b>	<b>Introduction to the Teaching Profession</b>	<b>3-1-3</b>
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; provides students with opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations; 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 course must include a minimum of 16 contact hours of field experience in P-12 classrooms.			
<b>EDUC</b>	<b>2301</b>	<b>Introduction to Special Populations</b>	<b>3-1-3</b>
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; provides students with opportunities to participate in early field observations of P-12 special populations; 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. Prerequisite: EDUC 1301			

## **ELMT Computer Information Technology and Systems (N) see also BCIS, CETT, COSC, CPMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY**

<b>ELMT</b>	<b>2435</b>	<b>Certified Electronics Technician Training</b>	<b>3-3-4</b>
Review of electronics concepts and principles in preparation for sitting for a certification examination administered by an outside organization or agency. The purpose of this course is to prepare the student for the International Society of Certified Electronics Technicians Associate CET exam. Prerequisite: CETT 1449. <i>Scheduled for December 2020 deactivation</i>			

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## **ELPT Construction Technology (N)** see also CBFM, CNBT, CRPT, MBST, PFPB and WDWK

**ELPT 1429 Residential Wiring** 3-3-4  
Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures.

## **EMAP Public Administration/Homeland Security (N)** see also HMSY

**EMAP 1400 Principles of Basic Emergency Management** 4-0-4  
Overview of the Texas Emergency Management System and the concepts of emergency management and its integration of systems, basic definitions, identification of hazards, the role of the local emergency manager, including interaction among various government entities. This course is equivalent to the Texas Department of Emergency Management and the Federal Emergency Management Agency courses G230 and G610.

**EMAP 2300 Developing Volunteer Resources and Decision Making** 3-0-3  
Management of volunteer services. Emphasizes decision-making, problem solving, and effective donation management planning and implementation. This course is equivalent to the Texas Department of Emergency Management and the Federal Emergency Management Agency courses G241 and G288.

**EMAP 2301 Leadership and Effective Communication** 3-0-3  
Analysis of personal and group dynamics in an emergency management setting. Examines the interpretation of the spoken and unspoken word and the effective utilization of public information processes of print, radio, and television media. This course is equivalent to the Texas Department of Emergency Management and the Federal Emergency Management Agency courses G240 and G242.

**EMAP 2302 Managing Mass Casualty and Fatality Incidents** 3-0-3  
Disaster scene control involving large numbers of casualties and fatalities; coordination of the responding agencies. Includes observation and critique of mass casualty disaster drills and critical incident stress debriefing.

**EMAP 2355 Disaster Recovery** 3-0-3  
Policies, concepts, and procedures of recovery. Addresses the various federal and state assistance programs. Emphasizes coordination of damage assessment, preparing documentation, and recovery procedures. This course is equivalent to the Texas Department of Emergency Management and the Federal Emergency Management Agency course G620.

## **EMSP Paramedicine(N)**

**EMSP 1147 Pediatric Life Support** 1-0-1  
Theory and skills necessary for the management of pediatric or neonatal emergencies. This course was designed to be repeated multiple times to improve student proficiency.

**EMSP 1160 Clinical-Emergency Medical Technology/Technician** 0-6-1  
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. Clinical education is an unpaid learning experience. Upon successful completion of this course and EMSP 1401, students are eligible to take the exam to be certified as an Emergency Medical Technician. This course is only offered with EMSP 1401. See also admissions requirements.

**EMSP 1170 Rapid Patient Assessment (Europe only)** 1-0-1  
The course is designed to train medical care providers to determine the seriousness of a patient's condition in the first few minutes of a patient encounter. It focuses on the "Sick not Sick" method of assessment; a systematic initial assessment aimed at recognizing life threatening conditions. The method is then applied to multiple scenarios.

**EMSP 1204 EMT Refresher** 1-2-2  
Update and review theory and skills necessary to meet national and/or state requirements for remediation or recertification as an Emergency Medical Technician (EMT).

**EMSP 1271 Sports and Physical Training Injuries (Europe only)** 2-0-2  
The course is designed for the pre-hospital care provider emphasizing musculoskeletal injuries incurred during physical activity. The course is designed to build upon and extend the knowledge gained by pre-hospital care providers during an Emergency Medical Technician certification course; or similar training.

**EMSP 1272 EMT-B Refresher (Europe only)** 2-0-2  
The course is designed to refresh the Certified Emergency Medical Technician Basic with changes in trends; policies; and procedures. This course includes a review of basic knowledge and skills required to meet the National Registry of Emergency Medical Technician Basic Recertification. The course follows the Department of Transportation Emergency Medical Technician Refresher curriculum and the new education standards.

**EMSP 1273 Advanced Airway Management (Europe only)** 2-0-2  
The anatomy and physiology of the respiratory system; the use of airway adjuncts; oxygen therapy; and airway care are reviewed. Then anatomical considerations and the steps in the performance of endotracheal and esophageal intubation in the adult are considered. Endotracheal intubation in the infant is presented. The steps to be followed in assisting a Paramedic during intubation are presented.

<b>EMSP 1291</b>	<b>Special Topics in Emergency Medical Technology/Technician</b>	<b>2-0-2</b>
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.		
<b>EMSP 1305</b>	<b>Emergency Care Attendant</b>	<b>1-4-3</b>
Preparation for certification as an Emergency Care Attendant (ECA)/Emergency Medical Responder (EMR).		
<b>EMSP 1338</b>	<b>Introduction to Advanced Practice</b>	<b>3-0-3</b>
Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). See also admission requirements.		
<b>EMSP 1355</b>	<b>Trauma Management</b>	<b>2-3-3</b>
Knowledge and skills in the assessment and management of patients with traumatic injuries. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). Co-requisite: EMSP 1356 and EMSX 1355. See also admission requirements.		
<b>EMSP 1356</b>	<b>Patient Assessment and Airway Management</b>	<b>2-3-3</b>
Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). Co-requisite: EMSP 1355 and EMSX 1356. See also admission requirements.		
<b>EMSP 1391</b>	<b>Special Topics in Emergency Medical Technology/Technician</b>	<b>2-4-3</b>
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.		
<b>EMSP 1401</b>	<b>Emergency Medical Technician-Basic</b>	<b>2-7-4</b>
Preparation for certification as an Emergency Medical Technician (EMT). Upon successful completion of this course and EMSP 1160, students are eligible to take the exam to be certified as an Emergency Medical Technician by the Texas Department of State Health Services and/or National Registry of EMT. Prerequisite: Current CPR certification. Co-requisite: EMSX 1401. See also admission requirements.		
<b>EMSP 2135</b>	<b>Advanced Cardiac Life Support</b>	<b>1-0-1</b>
Theory and skills necessary for the management of cardiovascular emergencies as specified by the American Heart Association (AHA) guidelines. This course was designed to be repeated multiple times to improve student proficiency.		
<b>EMSP 2143</b>	<b>Assessment Based Management</b>	<b>0-3-1</b>
A summative experience covering comprehensive, assessment-based patient care management for the paramedic level. Prerequisites: EMSP 2444, EMSP 2434 and EMSP 2263. See also admission requirements.		
<b>EMSP 2160</b>	<b>Clinical – Emergency Medical EMT Paramedic</b>	<b>0-3-1</b>
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. Co-requisite EMSP 2458. See also admission requirements.		
<b>EMSP 2164</b>	<b>Practicum-Emergency Medical Technology/Technician EMT Paramedic</b>	<b>0-10-1</b>
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Upon successful completion of this internship course, students are eligible to take the exam to be certified as a Paramedic by the National Registry and then apply for Paramedic certification by the Texas Department of State Health Services. Prerequisites: EMSP 2262 and EMSP 2263. See also admission requirements.		
<b>EMSP 2206</b>	<b>Emergency Pharmacology</b>	<b>2-0-2</b>
A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). See also admission requirements.		
<b>EMSP 2262</b>	<b>Clinical-Emergency Medical Technology/Technician EMT Paramedic</b>	<b>0-10-2</b>
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by clinical professional. Upon successful completion of this course, EMSP 1356, EMSP 1355, EMSP 1338 and EMSP 2206, students are eligible to take the exam to be certified as an Advanced EMT by the National Registry and then apply for EMT-Intermediate certification by the Texas Department of State Health Services. This course is designed to meet the clinical requirements for the Advanced EMT portion of the program. Prerequisites: EMSP 1356 and EMSP 1355. Co-requisites: EMSP 2444 and EMSP 2434. See also admission requirements.		
<b>EMSP 2263</b>	<b>Clinical-Emergency Medical Technology/Technician EMT Paramedic</b>	<b>0-10-2</b>
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by clinical professional. Upon successful completion of this course, EMSP 2330, EMSP 2305, and EMSP 2143, students are eligible to enter their Field Internship (EMSP 2164). Prerequisites: EMSP 2262. Co-requisites: EMSP 2330, EMSP 2305, and EMSP 2143. See also admission requirements.		
<b>EMSP 2300</b>	<b>Methods of Teaching Emergency Medical Service</b>	<b>2-2-3</b>
Focuses on instructional preparation, presentation, and evaluation, also essential knowledge, skills, and practices required to provide quality EMS educational programs applicable to the adult learner.		

<b>EMSP 2305 EMS Operations</b>	<b>3-0-3</b>
Knowledge and skills to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents. Upon successful completion of this course, EMSP 2263, EMSP 2330, and EMSP 2143, students are eligible to enter their Field Internship (EMSP 2164). Prerequisites: EMSP 2444, EMSP 2262 and EMSP 2434. Co-requisites: EMSP 2330, EMSP 2263, and EMSP 2143. See also admission requirements.	
<b>EMSP 2330 Special Populations</b>	<b>2-2-3</b>
Knowledge and skills necessary to assess and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics. Upon successful completion of this course, EMSP 2263, EMSP 2305, and EMSP 2143, students are eligible to enter their Field Internship (EMSP 2164). Prerequisites: EMSP 2444, EMSP 2262 and EMSP 2434. Co-requisites: EMSP 2305, EMSP 2263, EMSP 2143 and EMSX 2330. See also admission requirements.	
<b>EMSP 2434 Medical Emergencies</b>	<b>3-3-4</b>
Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics. Upon successful completion of this course, EMSP 2444, EMSP 2206, EMSP 2262, EMSP 2330, EMSP 2305, EMSP 2263, EMSP 2143 and EMSP 2164, the student is eligible to take the exam to be certified as a Paramedic by the National Registry and then apply for Paramedic certification by the Texas Department of State Health Services. Prerequisites: EMSP 1355 and EMSP 1356. Co-requisites: EMSP 2444, EMSP 2262, EMSP 1338 and EMSX 2434. See also admission requirements.	
<b>EMSP 2444 Cardiology</b>	<b>3-3-4</b>
Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation. Upon successful completion of this course, EMSP 2434, EMSP 2206, EMSP 2262, EMSP 2330, EMSP 2305, EMSP 2263, EMSP 2143 and EMSP 2164, the student is eligible to take the exam to be certified as a Paramedic by the National Registry and then apply for Paramedic certification by the Texas Department of State Health Services. Prerequisites: EMSP 1355 and EMSP 1356. Co-requisites: EMSP 2434, EMSP 2262 and EMSX 2444. See also admission requirements.	
<b>EMSP 2458 Critical Care Paramedic</b>	<b>3-3-4</b>
Prepares healthcare personnel to function as members of a critical care transport team. Co-requisite: EMSP 2160. See also admission requirements.	

## ENGL English (T)

<b>ENGL 1301 Composition I</b>	<b>3-0-3</b>
A study of the principles and techniques of written compositions including sentence structure, paragraph development, and paper organization. Also stresses the development of critical thinking as it applies to the textual analysis of expository prose. Prerequisite: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course. TSI Skills: R, W.	
<b>ENGL 1302 Composition II</b>	<b>3-0-3</b>
A continuation of ENGL 1301, emphasizing in more depth the principles and techniques of written compositions. Focus of compositions is on the development of critical thinking as it relates to the textual analysis of literary genres: the short story, poetry, drama, and the novel. Formal research paper is required. Prerequisite: ENGL 1301, or equivalent, with a grade of "C" or above.	
<b>ENGL 2307 Creative Writing I</b>	<b>3-0-3</b>
This course provides practical experience in the techniques of imaginative writing. It is designed to engage students in practical criticism and contemporary trends while emphasizing the development of creative skills. Students will receive guidance and instruction in the skills and craft necessary to construct successful fiction (short stories) and poetry. Prerequisite: ENGL 1301, or equivalent, with a grade of "C" or above. TSI Skills: R, W.	
<b>ENGL 2311 Technical and Business Writing</b>	<b>3-0-3</b>
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: ENGL 1301 or equivalent, with a grade of "C" or above.	
<b>ENGL 2322 British Literature I</b>	<b>3-0-3</b>
A survey of English literature from Beowulf to the major writers of the 18th Century. Although careful attention is given to the historical, social, and intellectual developments that gave rise to the literature, the emphasis of the course is on individual selections themselves as outstanding expressions of the English literary heritage. The course employs critical reading, thinking, and writing skills in the analysis of a wide variety of selected readings. Prerequisites: ENGL 1301 and 1302, or equivalent, with a grade of "C" or above.	
<b>ENGL 2323 British Literature II</b>	<b>3-0-3</b>
A survey of English literature from the early Romantic writers to the Twentieth Century. Although careful attention is given to the historical, social, and intellectual developments that gave rise to the literature, the emphasis of the course is on the individual selections themselves as outstanding expressions of the English literary heritage. The course employs critical reading, thinking, and writing skills in the analysis of a wide variety of selected readings. Prerequisites: ENGL 1301 and 1302, or equivalent, with a grade of "C" or above.	
<b>ENGL 2327 American Literature I</b>	<b>3-0-3</b>
A survey of American literature from selected Pre-Colonial and Colonial literature to selected major writers of the American Renaissance period. Although careful attention is given to the historical, social, and intellectual developments that gave rise to the literature, the emphasis of the course is on the individual selections themselves as outstanding expressions of our American literary heritage. The course employs critical reading, thinking, and writing skills in the analysis of a wide variety of selected readings. Prerequisites: ENGL 1301 and 1302, or equivalent, with a grade of "C" or above.	

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**ENGL 2328 American Literature II 3-0-3**  
A survey of American literature beginning with Walt Whitman and ending with selected major writers from the present. Although careful attention is given to the historical, social, and intellectual developments that gave rise to the literature, the emphasis is on the individual selections themselves as outstanding expressions of our American literary heritage. The course employs critical reading, thinking, and writing skills in the analysis of a wide variety of selected readings. Prerequisites: ENGL 1301 and 1302, or equivalent, with a grade of "C" or above.

**ENGL 2332 World Literature I 3-0-3**  
A survey of the major works of world writers from ancient epics to Renaissance poetry. Emphasis will be placed on individual selections of literature as outstanding examples of literary masterpieces and on significant themes represented across the literature. Social, intellectual and historical developments will be examined to highlight literary development through the ages. The course employs critical reading, thinking, and writing skills in an analysis of a wide variety of selected reading. Prerequisites: ENGL 1301 and 1302, or equivalent, with a grade of "C" or above.

**ENGL 2333 World Literature II 3-0-3**  
A survey of the major works of world writers from the Enlightenment to the Twenty-first Century. Emphasis will be placed on individual selections of literature as outstanding examples of literary masterpieces and on significant themes represented across the literature. Social, intellectual and historical developments will be examined to highlight literary development through the ages. The course employs critical reading, thinking, and writing skills in an analysis of a wide variety of selected readings. Prerequisites: ENGL 1301 and 1302, or equivalent, with a grade of "C" or above.

## **ENGR Engineering (T)**

**ENGR 1201 Introduction to Engineering 2-0-2**  
Introduction to engineering as a discipline and a profession. Includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society. Prerequisite: MATH 1414 or equivalent with a grade of "C" or above.

**ENGR 1304 Engineering Graphics I 3-0-3**  
Introduction to computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics. Prerequisite: Math 1314

**ENGR 2301 Engineering Mechanics – Statics 3-0-3**  
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. Prerequisite: MATH 2413 with a grade of "C" or above. Co-requisite: MATH 2414.

**ENGR 2302 Engineering Mechanics – Dynamics 3-0-3**  
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. Prerequisites: ENGR 2301 with a grade of "C" or above.

**ENGR 2305 Electrical Circuits I 3-0-3**  
This course will cover Principles of electrical circuits and systems. Basic circuit elements, Kirchhoff's laws, node and mesh analysis, DC circuit analysis, operational amplifiers, transient and sinusoidal steady-state analysis, AC circuit analysis, first- and second-order circuits, and Bode plots. Prerequisite: MATH 2413 with a grade of "C" or above. Co-requisite: MATH 2414 with a grade of "C" or above.

**ENGR 2332 Mechanics of Materials 3-0-3**  
This course will cover stresses, deformations, stress-strain relationships, torsions, beams, shafts, columns, elastic deflections in beams, combined loading, and combined stress. Prerequisite: ENGR 2301 with a grade of "C" or above.

## **ENVR Environmental Science (T)**

**ENVR 1401 Environmental Science I 3-3-4**  
A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. Laboratory activities will reinforce concepts discussed in lecture. Prerequisites: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course. Co-requisite: ENVX 1401.

## **FDST Agriculture (N) see also AGRI**

**FDST 1323 Principles of Viticulture I 2-3-3**  
Principles and practices of grape production including propagation, trellis and production systems, climate requirements, and economic factors affecting the choice of vineyard type and location.

**FDST 2320 Principles of Viticulture II 2-3-3**  
Principles and practices of grapevine production, including vineyard establishment, vine training and pruning, canopy management, nutrient and water.

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## FIRT Fire Protection (N)

<b>FIRT</b>	<b>1301</b>	<b>Fundamentals of Fire Protection</b>	<b>3-0-3</b>
Orientation to the fire service, career opportunities, and related fields. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.			
<b>FIRT</b>	<b>1303</b>	<b>Fire and Arson Investigation I</b>	<b>3-0-3</b>
In-depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.			
<b>FIRT</b>	<b>1307</b>	<b>Fire Prevention Codes &amp; Inspections</b>	<b>3-0-3</b>
Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures.			
<b>FIRT</b>	<b>1309</b>	<b>Fire Administration I</b>	<b>3-0-3</b>
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.			
<b>FIRT</b>	<b>1311</b>	<b>Fire Service Hydraulics</b>	<b>3-0-3</b>
Principles of the use of water in fire protection. Includes application of hydraulic principles to analyze and solve water supply problems. Not offered in Texas.			
<b>FIRT</b>	<b>1315</b>	<b>Hazardous Materials I</b>	<b>3-0-3</b>
Study of the chemical characteristics and behavior of various materials. Topics include storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation.			
<b>FIRT</b>	<b>1319</b>	<b>Firefighter Health and Safety</b>	<b>3-0-3</b>
Firefighter occupational safety and health in emergency and non-emergency situations. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.			
<b>FIRT</b>	<b>1338</b>	<b>Fire Protection Systems</b>	<b>3-0-3</b>
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. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.			
<b>FIRT</b>	<b>1349</b>	<b>Fire Administration II</b>	<b>3-0-3</b>
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.			
<b>FIRT</b>	<b>2309</b>	<b>Firefighting Strategies and Tactics I</b>	<b>3-0-3</b>
Analysis of the nature of fire problems and selection of initial strategies and tactics including an in-depth study of efficient and effective use of staffing and equipment to mitigate the emergency.			

## FREN French (T)

<b>FREN</b>	<b>1411</b>	<b>Beginning French I</b>	<b>4-2-4</b>
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.			
<b>FREN</b>	<b>1412</b>	<b>Beginning French II</b>	<b>4-2-4</b>
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: FREN 1411 with a grade of "C" or above.			
<b>FREN</b>	<b>2311</b>	<b>Intermediate French I</b>	<b>3-0-3</b>
This course includes grammar review, composition, and reading of French masterpieces, with conversation based on material read. Prerequisite: FREN 1411 and 1412 with a grade of "C" or above.			
<b>FREN</b>	<b>2312</b>	<b>Intermediate French II</b>	<b>3-0-3</b>
This course continues reading of French masterpieces and drill on syntax as needed for reading, composition, and conversation. Prerequisite: FREN 2311 with a grade of "C" or above.			

## GEOG Geography (T)

<b>GEOG</b>	<b>1301</b>	<b>Physical Geography</b>	<b>3-0-3</b>
This course introduces students to the processes that drive Earth's physical systems. Students will explore the relationships among these physical systems, with emphasis on weather and climate, water, ecosystems, geologic processes and landform development, and human interactions with the physical environment.			
<b>GEOG</b>	<b>1302</b>	<b>Human Geography</b>	<b>3-0-3</b>
This course introduces students to fundamental concepts, skills, and practices of human geography. Place, space, and scale serve as a framework for understanding patterns of human experience. Topics for discussion may include globalization, population and migration, culture, diffusion, political and economic systems, language, religion, gender, and ethnicity.			

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**GEOG 1303 World Regional Geography 3-0-3**  
This course is an introduction to the world's major regions seen through their defining physical, social, cultural, political, and economic features. These regions are examined in terms of their physical and human characteristics and their interactions. The course emphasizes relations among regions on issues such as trade, economic development, conflict, and the role of regions in the globalization process.

## **GEOL Geology (T)**

**GEOL 1403 Physical Geology 3-3-4**  
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. Laboratory activities will cover methods used to collect and analyze earth science data. Co-requisite: GEOX 1403

**GEOL 1404 Historical Geology 3-3-4**  
A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of Earth from rocks and fossils. Prerequisite: GEOL 1403. Co-requisite: GEOX 1404

**GEOL 1405 Environmental Science 3-2-4**  
A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. Laboratory activities will cover methods used to collect and analyze earth science data.

## **GERM German (T)**

**GERM 1411 Beginning German I 4-2-4**  
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

**GERM 1412 Beginning German II 4-2-4**  
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: GERM 1411 with a grade of "C" or above.

**GERM 2311 Intermediate German I 3-0-3**  
This course includes grammar review, composition and practice in conversation, with readings in contemporary German writings. Includes short stories and some longer works, providing a conversational basis. Prerequisite: GERM 1411 and 1412 with a grade of "C" or above.

**GERM 2312 Intermediate German II 3-0-3**  
This course continues reading in contemporary German writings and drill on syntax as needed for reading, composition, and conversation. Prerequisite: GERM 2311 with a grade of "C" or above.

## **GOVT Government (T)**

**GOVT 2304 Introduction to Political Science 3-0-3**  
Introductory survey of the discipline of political science focusing on the scope, and methods of the field, and the substantive topics in the discipline including the theoretical foundations of politics, political interaction, political institutions and how political systems function.

**GOVT 2305 Federal Government 3-0-3**  
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. TSI Skills: R.

**GOVT 2306 Texas Government 3-0-3**  
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. TSI Skills: R.

## **GRPH Graphics and Printing Technology (N) see also ARTC**

**GRPH 1305 Introduction to Graphic Arts and Printing 2-4-3**  
A study of the graphic and print industry, including the history of printing and techniques involved in the production and distribution of printed materials, printing terminology, and identification of career opportunities.

**GRPH 1309 Press Operations I 2-4-3**  
Introduction to offset printing. Includes knowledge and skills for operating a small offset press. Emphasizes parts of the press and operation procedures, printing terminology, paper and inks, and cleanup. Prerequisite: GRPH 1305.

**GRPH 1419 Bindery and Finishing Operations 3-3-4**  
An overview of bindery and finishing equipment and techniques. Emphasis on parts and operation. Demonstration of sorting, folding, cutting, labeling, wrapping, packaging, and binding methods.

**GRPH 1459 Vector Graphics for Production 2-4-4**  
A study and use of vector graphics for production. Students will compare the capabilities and functions of basic drawing tools in vector applications and develop graphics for production.

<b>GRPH 2309</b>	<b>Digital Pre-press</b>	<b>2-4-3</b>
Theory and techniques for pre-press preparation using industry standard software for final file output. Topics include the procedures and problems involved in computer file preparation ranging from trapping, color separations, and resolutions to printing basics and service bureaus.		
<b>GRPH 2338</b>	<b>Press Operations II</b>	<b>2-4-3</b>
Maintenance and operation of large sheet-fed offset press systems and production of process-color jobs with hairline registration. Prerequisite: GRPH 1309.		
<b>GRPH 2488</b>	<b>Internship - Graphics &amp; Printing Equipment Operator, General Production</b>	<b>0-19-4</b>
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 employer. Prerequisite: Department approval required.		

**HALT Agriculture (N) see also AGCR, AGEQ, AGMG and AGAH**

<b>HALT 1319</b>	<b>Landscape Construction</b>	<b>2-3-3</b>
Exploration of landscape construction materials and the methods used for installation. Topics on soil preparation, including wood, concrete, and masonry construction; and landscape lighting, including pools, spas, and general construction details.		
<b>HALT 1322</b>	<b>Landscape Design</b>	<b>2-3-3</b>
A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation.		
<b>HALT 1324</b>	<b>Turf Grass Science and Management</b>	<b>2-3-3</b>
Coverage of various species of warm and cool season grasses including their uses, application, adaptability, environmental tolerances, anatomy, and physiological responses.		
<b>HALT 1338</b>	<b>Irrigation Water Management and Conservation</b>	<b>2-3-3</b>
Application of the science of soil-water plant relations and climatic conditions to develop effective scheduling and management of irrigation water systems for residential, commercial, industrial, park, and golf courses. Water conservation issues, water policies and codes and other related matters will be discussed.		
<b>HALT 1345</b>	<b>Golf/Sports Field/Park Management</b>	<b>2-3-3</b>
Instruction in the management of golf courses, sports fields, and municipal parks departments. Topics include record keeping, budgeting, labor management, maintenance programs, financial reports, personnel management, and business functions.		
<b>HALT 1470</b>	<b>Horticulture – Home Gardening</b>	<b>2-3-4</b>
This course provides the student with the fundamental skills necessary for planting and maintaining vegetable gardens crops, from both a home gardening and a commercial level of production. Specific topics include studies of soils, fertilizer, water requirements, container gardening, hydroponics gardening, pest control, composting, and plant propagation.		
<b>HALT 2308</b>	<b>Greenhouse Management</b>	<b>2-3-3</b>
Fundamentals of greenhouse construction and operation. Topics include architectural styles, construction materials, environmental systems and controls, growing media, fertilizers, post harvest handling, marketing, and business management.		

**HAMG Hospitality Management (N) see also CHEF, IFWA, PSTR, RSTO and TRVM**

<b>HAMG 1313</b>	<b>Front Office Management</b>	<b>3-0-3</b>
Functions of front office operations as they relate to customer service. Includes a study of front office interactions with other departments in the lodging operation.		
<b>HAMG 1321</b>	<b>Introduction to the Hospitality Industry</b>	<b>3-0-3</b>
An exploration of the elements and career opportunities within the multiple segments of the hospitality industry.		
<b>HAMG 1340</b>	<b>Hospitality Legal Issues</b>	<b>3-0-3</b>
A course in legal and regulatory requirements that impact the hospitality industry. Topics include Occupational Safety and Health Administration (OSHA), labor regulations, tax laws, tip reporting, franchise regulations, and product liability laws.		
<b>HAMG 1342</b>	<b>Guest Room Management</b>	<b>3-0-3</b>
A study of the working relationship among housekeeping, front office, and maintenance in the lodging industry.		
<b>HAMG 2301</b>	<b>Principles of Food and Beverage Operations</b>	<b>3-0-3</b>
An overview of food and beverage management in various hospitality environments. Emphasizes cost controls from procurement to marketing and sales.		
<b>HAMG 2307</b>	<b>Hospitality Marketing and Sales</b>	<b>3-0-3</b>
Identification of the core principles of marketing and sales in their impact on the hospitality industry.		
<b>HAMG 2332</b>	<b>Hospitality Financial Management</b>	<b>3-0-3</b>
Methods and application of financial management within the hospitality industry. Primary emphasis on sales accountability, internal controls, and report analysis.		



<b>HAMG 2337</b>	<b>Hospitality Facilities Management</b>	<b>3-0-3</b>
Identification of hospitality building systems and facilities; to include sustainability and risk management.		
<b>HAMG 2388</b>	<b>Internship - Hospitality Administration and Management</b>	<b>0-9-3</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Consent of the program coordinator.		

## **HART Heating, Air Conditioning and Refrigeration (N)**

<b>HART 1341</b>	<b>Residential Air Conditioning</b>	<b>2-4-3</b>
A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems. Prerequisite or Co-requisite: HART 1401 and 1407.		
<b>HART 1401</b>	<b>Basic Electricity for HVAC</b>	<b>3-3-4</b>
Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. Prerequisite: department consent required.		
<b>HART 1403</b>	<b>Air Conditioning Control Principles</b>	<b>3-3-4</b>
A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of Ohm's law as applied to air conditioning controls and circuits. Prerequisite: HART 1401 and 1407.		
<b>HART 1407</b>	<b>Refrigeration Principles</b>	<b>3-3-4</b>
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components and safety. Prerequisite: Department consent required.		
<b>HART 1445</b>	<b>Gas and Electric Heating</b>	<b>3-3-4</b>
Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems. Prerequisite or Co-requisite HART 1401.		
<b>HART 2341</b>	<b>Commercial Air Conditioning</b>	<b>2-4-3</b>
A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less. Prerequisites: HART 1401 and 1407.		
<b>HART 2342</b>	<b>Commercial Refrigeration</b>	<b>2-4-3</b>
Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines. Prerequisites: HART 1401 and 1407.		
<b>HART 2431</b>	<b>Advanced Electricity for HVAC</b>	<b>3-3-4</b>
Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices. Prerequisites: HART 1401, 1403, 1407 and 1445.		
<b>HART 2436</b>	<b>Air Conditioning Troubleshooting</b>	<b>3-3-4</b>
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. Prerequisites: HART 1401, 1403, 1407 and 1445.		
<b>HART 2438</b>	<b>Air Conditioning Installation and Startup</b>	<b>3-3-4</b>
A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing. Prerequisite or co-requisite: HART 1407.		
<b>HART 2445</b>	<b>Residential Air Conditioning System Design</b>	<b>3-3-4</b>
Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system. Prerequisite: HART 1407.		
<b>HART 2449</b>	<b>Heat Pumps</b>	<b>3-3-4</b>
A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems. Prerequisites: HART 1401, 1403, and 1407.		
<b>HART 2488</b>	<b>Internship - Heating, A/C, Ventilation and Refrigeration Maintenance Technology/ Technician (HAC, HACR)</b>	<b>0-19-4</b>
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 employer. Prerequisite: Department approval required.		

## **HIST History (T)**

<b>HIST 1301</b>	<b>United States History I</b>	<b>3-0-3</b>
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. TSI Skills: R, W.		

<b>HIST</b>	<b>1302</b>	<b>United States History II</b>	<b>3-0-3</b>
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. TSI Skills: R, W.			
<b>HIST</b>	<b>2301</b>	<b>Texas History</b>	<b>3-0-3</b>
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. TSI Skills: R, W.			
<b>HIST</b>	<b>2311</b>	<b>Western Civilization I</b>	<b>3-0-3</b>
A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from human origins to the 17th century. Themes that should be addressed in Western Civilization I include the cultural legacies of Mesopotamia, Egypt, Greece, Rome, Byzantium, Islamic civilizations, and Europe through the Middle Ages, Renaissance, and Reformations. TSI Skills: R, W.			
<b>HIST</b>	<b>2312</b>	<b>Western Civilization II</b>	<b>3-0-3</b>
A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from the 17th century to the modern era. Themes that should be addressed in Western Civilization II include absolutism and constitutionalism, growth of nation states, the Enlightenment, revolutions, classical liberalism, industrialization, imperialism, global conflict, the Cold War, and globalism. TSI Skills: R, W.			
<b>HIST</b>	<b>2321</b>	<b>World Civilizations I</b>	<b>3-0-3</b>
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. TSI Skills: R, W.			
<b>HIST</b>	<b>2322</b>	<b>World Civilizations II</b>	<b>3-0-3</b>
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. TSI Skills: R, W.			
<b>HIST</b>	<b>2381</b>	<b>African-American History I</b>	<b>3-0-3</b>
A survey of the social, political, economic, cultural, and intellectual history of people of African descent in the formation and development of the United States to the Civil War/Reconstruction period. African American History I includes the study of African origins and legacy, trans-Atlantic slave trade, and the experiences of African Americans during Colonial, Revolutionary, Early National, Antebellum, and the Civil War/Reconstruction Eras. This course will enable students to understand African American history as an integral part of U.S. history. TSI Skills: R, W.			
<b>HIST</b>	<b>2382</b>	<b>African American History II</b>	<b>3-0-3</b>
A survey of the social, political, economic, cultural, and intellectual history of people of African descent in the United States from the Civil War/Reconstruction period to the present. African American History II examines segregation, disenfranchisement, civil rights, migrations, industrialization, world wars, the Harlem Renaissance and the conditions of African Americans in the Great Depression, Cold War and post-Cold War eras. This course will enable students to understand African American history as an integral part of U.S. history. TSI Skills: R, W.			

## **HITT Office Technology (N) see also MDCA, POFI, POFM, and POFT**

<b>HITT</b>	<b>1301</b>	<b>Health Data Content and Structure</b>	<b>2-4-3</b>
Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information including content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms and screens.			
<b>HITT</b>	<b>1303</b>	<b>Medical Terminology II</b>	<b>2-4-3</b>
A continuation of the study of medical terms through word origin and structure, abbreviations and symbols, surgical and diagnostic procedures, and medical specialties. Prerequisite: HITT 1305 or equivalent.			
<b>HITT</b>	<b>1305</b>	<b>Medical Terminology I</b>	<b>2-4-3</b>
Study of medical terms through word origin and structure. Introduction to abbreviations and symbols, surgical and diagnostic procedures, and medical specialties.			
<b>HITT</b>	<b>1341</b>	<b>Coding and Classification Systems</b>	<b>2-4-3</b>
Fundamentals of coding rules, conventions, and guidelines using clinical classification systems.			
<b>HITT</b>	<b>1349</b>	<b>Pharmacology</b>	<b>2-4-3</b>
Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems. Prerequisite: HITT 1305 or MDCA 1309 is a recommended prerequisite or co-requisite for this course.			

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**HITT 2335 Coding and Reimbursement Methodologies 2-4-3**  
Advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement. Prerequisites: HITT 1341 and HITT 1305. Recommended Co-requisite: POFM 2310.

**HITT 2361 Clinical – Health Information/Medical Records Technology/Technician 0-9-3**  
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. Prerequisite: Completion of all first and second semester courses in the degree plan and departmental approval required.

## **HLAB Histological Technician (N)**

**HLAB 1301 Introduction to Histotechnology 3-2-3**  
Introduction to the healthcare environment and the histology laboratory. Includes laboratory safety and infection control; healthcare professionals; medical terminology; basic anatomy and physiology; laboratory mathematics; communication; and ethics, legal, and professional issues.

**HLAB 1302 Histotechnology I 2-3-3**  
Introduction to the basic theories and practices of histotechnology. Includes laboratory safety, fixation, tissue processing, embedding, microtomy and cryotomy, and routine staining.

**HLAB 1305 Functional Histology I 3-3-3**  
Recognition, composition, and function of cells, cell life cycles, blood, and basic tissue types.

**HLAB 1443 Histotechnology II 3-3-4**  
A continuation of Histotechnology I. Introduces both theory and practice of common histochemical staining techniques. Topics include laboratory safety; laboratory mathematics and reagent preparation; basic tissue/dye bonding; differentiation and quality control; and nuclear, connective tissue, and carbohydrate staining techniques. Prerequisite: HLAB 1302.

**HLAB 1446 Functional Histology II 3-3-4**  
A continuation of Functional Histology I. Emphasis on the recognition, composition, and function of organ systems. Includes skeletal tissues, central nervous system, circulatory system, endocrine glands, and reproductive system. Prerequisite: HLAB 1305.

**HLAB 1460 Clinical - Histologic Technology/Histotechnologist I 0-24-4**  
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.

**HLAB 2341 Registry Review 3-0-3**  
Review of the major theoretical/practical applications in histotechnology. Includes fixation, processing, embedding, microtomy, frozen cryotomy, routine and special stains, tissue identification, immunohistochemistry, enzyme histochemistry, and electron microscopy.

**HLAB 2434 Histotechnology III 3-3-4**  
A continuation of Histotechnology II. Further introduces theory and practice of routine histochemical staining techniques. Techniques include microorganisms, tissue pigments and minerals, and neural tissue. Includes specialized techniques such as electron microscopy, immunohistochemistry, and muscle enzyme histochemistry. Prerequisite: HLAB 1302 and HLAB 1443.

**HLAB 2460 Clinical - Histologic Technology/Histotechnologist II 0-24-4**  
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 on employment skills, review of ethical and legal behavior, and professional development. Prerequisite: HLAB 1460.

## **HMSY Public Administration/Homeland Security (N) see also EMAP**

**HMSY 1337 Introduction to Homeland Security 3-0-3**  
Overview of homeland security. Evaluation of the progression of homeland security issues throughout Texas and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues.

**HMSY 1338 Homeland Security Emergency Communications Management 3-0-3**  
A study of public safety communication system interactions. Topics include political and policy basis of emergency management, technology, mitigation, and disaster recovery. Includes an overview of incident command systems, emergency management, mitigation for emergency managers, and individual and community disaster education.

**HMSY 1340 Homeland Security Intelligence Operations 3-0-3**  
A study of the intelligence community. Includes the role of intelligence and law enforcement. Topics include collection methods, management of operations, classification, production and analysis, and assessment of threat vulnerability. Source development will be conducted.

**HMSY 1341 Critical Infrastructure Protection 3-0-3**  
Identification and analysis of critical infrastructure systems including security and threat assessments. Includes mitigation of threats as well as evaluation and revision of security measures in order to protect critical infrastructures.

**HMSY 1342 Understanding and Combating Terrorism 3-0-3**  
Study of terrorism and reasons why America is a terrorist target. Includes methods of combating domestic and international terrorism, terrorist operations, cyber-terrorism, narco-terrorism, the mind of the terrorist, and organized crime's impact on terrorism.

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**HMSY 1370 Information Technology Security for Homeland Security Specialists 3-0-3**  
This course covers the basics of information technology security. Topics covered are: the uses of cyber crime by terrorist organizations and their impact on our nation's information-based infrastructure, government, corporate, and private institutions and citizens; how to protect data and infrastructure from cyber crimes and electronic terrorism. Desktop computer, organizational infrastructure, communications infrastructure, and network security will also be covered. The course includes a study of the uses of computer forensics and methods to defend against cyber attacks. It will examine applications with proven success and tie them to real-life scenarios.

**HMSY 1371 Counter Terrorism 3-0-3**  
This course will provide students with a broad understanding of the basic structure, roles and missions of the counterterrorism community in homeland security. The course will examine the definition of terrorism by investigating what motivates individuals to commit acts of terrorism, the political, legal, and policy measures that must be in place to execute counterterrorism measures, the rules of engagement in counterterrorism that affects commanders and policy makers, the role of both the legislature and courts regarding counterterrorism, the role of state sponsored terrorism and how the media influences counterterrorism operations and the implications of counterterrorism on homeland security and policies for the United States.

**HMSY 1470 Final Project in Homeland Security and Emergency Management 4-0-4**  
Students will participate in a comprehensive project from conception to conclusion. The student will be required to plan and develop a project consisting of research, design, and layout. A formal written report and a demonstration and presentation of the process and results are required. Prerequisite: Department approval required.

**HMSY 2337 Managing a Unified Incident Command 3-0-3**  
A study of the common set of procedures of the unified incident command system for organizing personnel, facilities, equipment, and communications to successfully coordinate multi-agency response. Includes the identification and application of key roles and functional responsibilities for professionally managing multi-agency incidents. Also covers one or more practical application exercises and/or scenarios.

## **HPRS Nursing (N) see also RNSG**

**HPRS 2300 Pharmacology for Health Professions 3-0-3**  
A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. BIOL 2401 is a recommended prerequisite or co-requisite for this course.

## **HRPO Business Administration and Management (N) see also BMGT, BUSG and MRKG**

**HRPO 1311 Human Relations 3-0-3**  
Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

**HRPO 2301 Human Resources Management 3-0-3**  
Behavioral and legal approaches to the management of human resources in organizations.

## **HUMA Humanities (T)**

**HUMA 1315 Fine Arts Appreciation 3-0-3**  
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. Prerequisite: None

## **IBUS International Business/Trade/Commerce (N)**

**IBUS 1301 Principles of Exports 3-0-3**  
Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and transportation. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

**IBUS 1302 Principles of Imports 3-0-3**  
Practices and processes of import management operations including such factors as government controls and compliance. Emphasizes the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices.

**IBUS 1305 Introduction to International Business and Trade 3-0-3**  
The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

**IBUS 1341 Global Supply Chain Management 3-0-3**  
International purchasing or sourcing. Includes the advantages and the barriers of purchasing internationally, global sourcing, procurement technology, and purchasing processes. Emphasizes issues of contract administration, location, and evaluation of foreign suppliers, total cost approach, exchange fluctuations, customs procedures, and related topics.

**IBUS 2332 Global Business Simulation 3-0-3**  
A simulation of a global environment. Students will engage in business practice and theory. The simulation may include researching foreign business cultures and importing and exporting products. Emphasizes participation in all business decisions related to running a simulated company.

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## **IFWA Hospitality Management (N)** see also CHEF, HAMG, PSTR, RSTO and TRVM

**IFWA 1318 Nutrition for the Food Service Professional 3-0-3**  
An introduction to nutrition including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques.

## **IMED Computer Information Technology and Systems (N)** see also BCIS, CETT, COSC, CPMT, ELMT, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY

**IMED 1316 Web Design I 2-4-3**  
Instruction in web design and related graphic design issues including mark-up languages, web sites, and browsers. Instruction in web page design specifications including HTML5, CSS3, and validation. Use of websites and browsers. Prerequisites: ITNW 1337.

## **ITAL Italian (T)**

**ITAL 1411 Beginning Italian I 4-2-4**  
This course includes basic grammar drill, simple reading, and conversation.

**ITAL 1412 Beginning Italian II 4-2-4**  
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: ITAL 1411 with a grade of "C" or above.

**ITAL 2311 Intermediate Italian I 3-0-3**  
This course includes grammar review, composition, and reading of Italian masterpieces, with conversation based on material read. Prerequisite: ITAL 1411 and ITAL 1412 with a grade of "C" or above.

**ITAL 2312 Intermediate Italian II 3-0-3**  
This course continues reading of Italian masterpieces and drill on syntax as needed for reading composition and conversation. Prerequisite: ITAL 2311 with a grade of "C" or above.

## **ITCC Computer Information Technology and Systems (N)** see also BCIS, CETT, COSC, CPMT, ELMT, IMED, ITNW, ITSC, ITSE, ITSW, ITSY

**ITCC 1314 CCNA 1: Introduction to Networks 2-4-3**  
IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

**ITCC 1344 CCNA 2: Switching, Routing and Wireless Essentials 2-4-3**  
Describes the architecture, components and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Prerequisite: ITCC 1314 or ITNW 1325

**ITCC 2420 CCNA 3: Enterprise Networking, Security, and Automation 3-3-4**  
Describes the architecture, components, operations and security to scale for large, complex networks, including wide area network (WAN) technologies. Emphasizes network security concepts and introduces network virtualization and automation. Prerequisite: ITCC 1344.

## **ITNW Computer Information Technology and Systems (N)** see also BCIS, CETT, COSC, CPMT, ELMT, IMED, ITCC, ITSC, ITSE, ITSW, ITSY

**ITNW 1308 Implementing and Supporting Client Operating Systems 2-4-3**  
The fundamentals of managing and configuring local, network, and distributed network clients. Topics may adapt to changes in industry practices. Prerequisites: ITNW 1325 or ITCC 1314 *Will be available for course offering January 2021*

**ITNW 1309 Fundamentals of Cloud Computing 2-4-3**  
Introduction to Cloud computing from a business and technical perspective, including Cloud concepts, services, architecture, system integration, connectivity, data center migration, administration, security, compliance and technical support. Coverage includes preparation for industry certifications. Topics may adapt to changes in industry practices. Prerequisites: None *Will be available for course offering January 2021*

**ITNW 1313 Computer Virtualization 2-4-3**  
Implement and support virtualization of clients of servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers. Prerequisite: 6 hours of Networking coursework (any combination of ITNW and/or ITCC).

**ITNW 1316 Network Administration 2-4-3**  
An introduction to the basic concepts of network administration. Prerequisites: None

**ITNW 1325 Fundamentals of Networking Technologies 2-4-3**  
Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. Prerequisites: None

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**ITNW 1336 Cloud Deployment and Infrastructure Management 2-4-3**  
Focus on Cloud infrastructure, deployment, security models, and key considerations in migrating to Cloud computing. Includes the technologies and processes required to build on-premise and Cloud environments, including computation, storage, networking, virtualization, business continuity, security, and management. Prerequisite: ITNW 1309. *Will be available for course offering January 2021*

**ITNW 1337 Introduction to the Internet 2-4-3**  
Introduction to the Internet with emphasis on using the World Wide Web to locate, transfer, and publish information and create web pages using HTML. Develop and validate simple web pages containing basic features of image and video placement; forms; frames; lists; tables; font. Techniques and understanding of most current browsers - navigating; printing; automatic ftp through the browser; establishing favorites/bookmarks; creating RSS feeds; managing cookies and other settings and services. Survey and use of emerging technologies on the Internet such as blogs, social media, QR codes, and various Internet search tools (engines, directories, metacrawlers). Prerequisites: None

**ITNW 1345 Implementing Network Directory Services 2-4-3**  
In-depth coverage of the skills necessary to install, configure, and administer Network Directory service. Prerequisites: ITNW1316 or concurrent enrollment.

**ITNW 1454 Implementing and Supporting Servers 3-3-4**  
Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment. Prerequisites: 12 hours of CITS coursework with at least 9 hours of Network coursework (any combination of ITNW and/or ITCC).

**ITNW 2427 Advanced Cloud Concepts 3-3-4**  
Focus on enterprise Cloud architecture, with advanced topics including multi-Cloud platforms inclusive of computing, networking, storage, monitoring and database. Prerequisite: ITNW 1336 *Will be available for course offering January 2021*

**ITNW 2488 Internship - Computer Systems Networking and Telecommunications 0-19-4**  
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. Prerequisites: 30 semester hours in computer science courses and consent of the Department Chair.

## **ITSC Computer Information Technology and Systems (N) see also BCIS, CETT, COSC, CPMT, ELMT, IMED, ITCC, ITNW, ITSE, ITSW, ITSY**

**ITSC 1301 Introduction to Computers 3-1-3**  
Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. COSC 1301 is an acceptable substitution for this course. Prerequisites: None

**ITSC 1309 Integrated Software Applications I 2-4-3**  
Introduction to business productivity software suites using word processing, spreadsheets, databases, and/or presentation software. BCIS 1305 is an acceptable academic substitution for this course. Prerequisites: None

**ITSC 1316 Linux Installation and Configuration 2-4-3**  
Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux. Prerequisite: None.

**ITSC 1325 Personal Computer Hardware 2-4-3**  
Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting. Prerequisites: None

**ITSC 1415 Project Management Software 3-3-4**  
Use of project management software for developing a project plan including timelines, milestones, scheduling, life cycle phases, management frameworks, skills, processes, and tools. Prerequisites: 6 semester hours in computer science courses.

**ITSC 2325 Advanced Linux 2-3-3**  
Provides instruction in advance open-source Linux operating system. Develops directory services for clients, support users remotely, and install and configure network services. Prerequisite: ITSC 1316.

**ITSC 2439 Personal Computer Help Desk Support 3-3-4**  
Diagnosis and solution of user hardware and software related problems with on-the-job and/or simulated projects. Prerequisites: 21 hours of CITS coursework.

**ITSC 2486 Internship - Computer and Information Sciences, General 0-19-4**  
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. Prerequisites: 30 semester hours in computer science courses and consent of the Department Chair.

## **ITSE Computer Information Technology and Systems (N) see also BCIS, CETT, COSC, CPMT, ELMT, IMED, ITCC, ITNW, ITSC, ITSW, ITSY**

**ITSE 1302 Computer Programming 2-4-3**  
Introduction to computer programming including design, development, testing, implementation, and documentation. COSC 1336 is an acceptable academic substitution for this course. Prerequisite: ITSE 1329 or COSC 1315.

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**ITSE 1329 Programming Logic and Design 3-1-3**  
Problem-solving applying structured techniques and representation of algorithms using design tools. Includes testing, evaluation, and documentation. Techniques and application for programming design and development for desktop, web, and database application.  
Prerequisites: None

**ITSE 1359 Introduction to Scripting Languages 2-4-3**  
Introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis.  
Prerequisites: None

**ITSE 2402 Intermediate Web Programming 3-3-4**  
Techniques for Web development. Includes server-side and client-side scripting. Prerequisites: ITSE 1329 and ITNW 1337.

## **ITSW Computer Information Technology and Systems (N) see also BCIS, CETT, COSC, CPMT, ELMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSY**

**ITSW 1307 Introduction to Database 2-4-3**  
Introduction to database theory and the practical applications of a database. Prerequisites: ITSE 1329 or ITSE 1359 or COSC 1315.

## **ITSY Computer Information Technology and Systems (N) see also BCIS, CETT, COSC, CPMT, ELMT, IMED, ITCC, ITNW, ITSC, ITSE, ITSW**

**ITSY 1342 Information Technology Security 2-4-3**  
Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses. Prerequisites: 3 hours of Network coursework (ITNW or ITCC) or concurrent enrollment.

**ITSY 2345 Network Defense and Countermeasures 2-4-3**  
This is a practical application and comprehensive course that includes the planning, design, and construction of defenses for a complex network that will sustain an attack, document events, and mitigate the effects of the attack. Prerequisite: ITSY 2401.

**ITSY 2401 Firewalls and Network Security 3-3-4**  
Identify elements of firewall design, types of security threats and responses to security attacks. Use Best Practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.  
Prerequisites: ITSC 1316 or ITNW 1325 or ITCC 1314 or concurrent enrollment with either.

**ITSY 2459 Security Assessment and Auditing 3-3-4**  
Capstone experience for the security curriculum. Synthesizes technical material covered in prior courses to monitor, audit, analyze, and revise computer and network security systems to ensure appropriate levels of protection are in place to assure regulatory compliance.  
Prerequisites: 12 semester hours of Information Technology Security coursework (ITSY) or departmental approval.

**ITSY 2486 Internship - Computer and Information Systems Security 0-19-4**  
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. Prerequisites: 29 semester hours in computer science courses and consent of the Department Chair

## **KINE Kinesiology (T)**

**KINE 1106/1107 Basketball 0-3-1**  
This course is designed to acquaint students with basic fundamentals of basketball to include dribbling, passing, shooting and offensive/defensive positioning. This course also introduces basic rules and terminology of basketball.

**KINE 1108/1109 Bowling 0-3-1**  
This course introduces students to fundamentals of bowling, lane etiquette, target bowling, 3-6-10 spare system and scoring. The course also includes individual bowling and in-class league tournament.

**KINE 1110/1111 Fitness Walking 0-3-1**  
This course is designed to acquaint students with fitness walking as a choice to improve cardiovascular endurance. Also includes an introduction to basic resistance and core exercise to provide a full-body workout.

**KINE 1114/1115 Spin Bike 0-3-1**  
This course is designed to improve fitness and endurance by participating in an indoor cycling workout. Also includes core exercise.

**KINE 1120/1121 Tae Kwon Do 0-3-1**  
The purpose of this course is to introduce students to the Martial Art of TAE KWON DO, which involves physical activity as well as mental discipline.

**KINE 1122/1148 Kickboxing 0-3-1**  
This course introduces students to proper Kickboxing technique and form. Kickboxing will be used to develop fitness in cardiovascular endurance, muscular endurance, flexibility, balance, speed and coordination.

**KINE 1123/1124 Muay Thai Kickboxing 0-3-1**  
This course introduces students to the fundamental basics of Muay Thai kickboxing. Muay Thai is the art of 8 limbs using boxing, elbow strikes, knee strikes and kicks as weapons. This system provides strength, cardiovascular fitness and self-defense

<b>KINE 1125/1126 Physical Conditioning</b>	<b>0-3-1</b>
This course emphasizes the development of cardiovascular fitness, muscular strength, muscular endurance, and flexibility through the use of cardio-activities, resistance training and core exercises.	
<b>KINE 1127/1128 Soccer</b>	<b>0-3-1</b>
This course is designed to acquaint students with the basic fundamentals of soccer to include dribbling, passing, tackling, shooting, throw-ins and offensive/defensive positioning. Also introduces basic rules and terminology of soccer.	
<b>KINE 1132/1133 Swimming</b>	<b>0-3-1</b>
This course is for students who have little or no experience in the water to the advanced swimmer. Students will be taught basic water safety, floating, treading water, proper breathing and 5 basic swim strokes (front crawl, backstroke, breaststroke, elementary back stroke and side stroke).	
<b>KINE 1135/1136 Tennis</b>	<b>0-3-1</b>
This course is designed to acquaint students with the basic fundamentals of tennis to include basic groundstrokes, serving, volleying and offensive/defensive positioning. Students will also learn basic rules, terminology and etiquette of the game.	
<b>KINE 1137/1138 Volleyball</b>	<b>0-3-1</b>
This course is designed to acquaint students with the basic fundamentals of volleyball to include passing, setting, serving, hitting and offensive/defensive positioning. Students will also learn basic rules and terminology.	
<b>KINE 1139/1140 Water Fitness</b>	<b>0-3-1</b>
This course is designed to increase cardiovascular endurance, muscular endurance, strength and flexibility while using the water resistance. The resistance of water reduces impact on the joints of the body and challenges all fitness levels. Swimming skills are not required.	
<b>KINE 1143/1144 Weight Training</b>	<b>0-3-1</b>
This course is designed for the beginner or novice weight lifter. This course introduces fundamental skills of weight training for personal fitness. Emphasis is placed on proper techniques, training programs and nutrition.	
<b>KINE 1146/1147 Yoga</b>	<b>0-3-1</b>
This course is designed to improve muscular strength, endurance, flexibility, posture, balance and relaxation techniques. Students gain an increased understanding of yoga postures, benefits associated with yoga and meditation.	
<b>KINE 1149/1150 Jogging</b>	<b>0-3-1</b>
This course is designed for the beginner as well as the novice jogger. Students begin with low-intensity, short-distance training before progressing into a more aggressive, longer training distance. The course covers proper running mechanics, types of training and benefits of cardiovascular training.	
<b>KINE 2100/2104 Zoomba Cardio</b>	<b>0-3-1</b>
Zoomba is a Latin inspired dance-fitness course that incorporates international and pop music for a total-body workout. This course combines all elements of fitness, such as cardio, muscle conditioning, balance and flexibility.	
<b>KINE 2105/2106 Krav Self-Defense</b>	<b>0-3-1</b>
This course involves multiple levels of self-defense, various martial arts techniques, and skills based on safety principles such as the ABCs of Conflict Avoidance, your body's natural weapons, and target areas for striking. Self-defense training will teach you to be in control, have an action plan, and react quickly to any situation.	
<b>KINE 2107/2108 Boot Camp</b>	<b>0-3-1</b>
This course incorporates High Intensity Interval Training (HITT) in a motivating boot camp setting. Bootcamp classes combine functional training exercises and partner and group training. This course incorporates running, plyometric drills, body weight exercises, medicine balls, battle ropes, tires, free weights, sand bags and more.	
<b>KINE 2109/2110 Eagle Fit</b>	<b>0-3-1</b>
This course uses varied functional movements performed at high intensity in a team setting similar to CrossFit. The movements are taken from gymnastics, weight lifting, running, towing, and a variety of other types of workouts.	
<b>KINE 1301 Introduction to Physical Fitness &amp; Sport</b>	<b>3-0-3</b>
A course which introduces the student to the fields of health, physical education, and recreation. Emphasis on the scope and organization of professional activities, opportunities and qualifications of the professional physical educator. This course does not replace the physical activity course(s) requirement for the award of the Associate of Arts, Associate of Science or Associate of Applied Science degrees. Prerequisite: None.	
<b>KINE 1304 Personal/Community Health I</b>	<b>3-0-3</b>
Investigation of the principles and practices in relation to personal and community health. This course does not replace the physical activity course(s) requirement for the award of the Associate of Arts, Associate of Science or Associate of Applied Science degrees. Prerequisite: None.	
<b>KINE 1306 First Aid</b>	<b>3-0-3</b>
First aid topics include how to assess and act in the event of injuries (including cuts, burns, joint injuries, and temperature-related illnesses). Splinting and bandaging techniques are covered. CPR topics include how to recognize an emergency, caring for conscious and unconscious choking victims, recognizing signs of a heart attack, rescue breathing, and cardiopulmonary resuscitation, and provides an introduction to Automatic External Defibrillation. American Heart Association certification in CPR and Basic Life Saving (BLS) may be earned. An additional fee will be charged in this course for American Heart Association books and supplies. This course does not replace the physical activity course(s) requirement for the award of the Associate of Arts, Associate of Science or Associate of Applied Science degrees. Prerequisite: None.	



<b>KINE 1308</b>	<b>Sports Officiating I</b>	<b>3-0-3</b>
Theory and practice in techniques of officiating. This course does not replace the physical activity course(s) requirement for the award of the Associate of Arts, Associate of Science or Associate of Applied Science degrees. Prerequisite: None.		
<b>KINE 1321</b>	<b>Coaching/Sports/Athletics I</b>	<b>3-0-3</b>
Techniques and theories underlying the coaching of men's and women's sports. Special emphasis upon AIDS, equipment, organization, and administration of the program. This course does not replace the physical activity course(s) requirement for the award of the Associate of Arts, Associate of Science or Associate of Applied Science degrees. Prerequisite: None.		
<b>KINE 1338</b>	<b>Concepts of Physical Fitness – Personal Trainer – NCSF Trainer Certification Course</b>	<b>3-0-3</b>
To provide professional development as well as theoretical proficiency required for qualified personal trainers. This course will also provide a hands-on approach as an integral component of preparation for careers that emphasize exercise prescription and training utilizing a practical skill approach. After completion of this program students will be prepared to sit for the ACSM-CPT exam and enter the job market with a valid credential denoting their qualified status. This course does not replace the physical activity course(s) requirement for the award of the Associate of Arts, Associate of Science or Associate of Applied Science degrees. Prerequisite: KINE 1143.		

## **KORE Korean (T)**

<b>KORE 1411</b>	<b>Beginning Korean I</b>	<b>4-2-4</b>
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.		
<b>KORE 1412</b>	<b>Beginning Korean II</b>	<b>4-2-4</b>
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: KORE 1411 with a grade of "C" or above.		
<b>KORE 2311</b>	<b>Intermediate Korean I</b>	<b>3-0-3</b>
This course includes grammar review, composition, and reading with conversation based on material read. Prerequisite: KORE 1411 and 1412 with a grade of "C" or above.		
<b>KORE 2312</b>	<b>Intermediate Korean II</b>	<b>3-0-3</b>
This course continues reading and drill on syntax as needed for reading, composition, and conversation. Prerequisite: KORE 2311 with a grade of "C" or above.		

## **LGLA Paralegal/Legal Assistant (N)**

<b>LGLA 1301</b>	<b>Legal Research and Writing</b>	<b>3-0-3</b>
Presents the fundamentals of legal research and writing emphasizing the paralegal's role including resources and processes used in legal research and writing.		
<b>LGLA 1307</b>	<b>Introduction to Law and the Legal Profession</b>	<b>3-0-3</b>
Overview of the law and the legal professions including legal concepts, systems, and terminology; substantive areas of law and the federal and state judicial systems; ethical obligations and regulations; professional trends and issues with emphasis on the paralegal's role.		
<b>LGLA 1317</b>	<b>Law Office Technology</b>	<b>3-0-3</b>
Computer technology and software applications within the law office emphasizing the paralegal's role in the use of law office technology. Prerequisite: Completion of BCIS 1305 or ITSC 1309 is recommended.		
<b>LGLA 1345</b>	<b>Civil Litigation</b>	<b>3-0-3</b>
Presents fundamental concepts and procedures of civil litigation including pretrial, trial, and post-trial phases of litigation and emphasizes paralegal's role in civil litigation.		
<b>LGLA 1351</b>	<b>Contracts</b>	<b>3-0-3</b>
Presents fundamental concepts of contract law including formation, performance, and enforcement of contracts under the common law and the Uniform Commercial Code with emphasis on the paralegal's role in contract law.		
<b>LGLA 1353</b>	<b>Wills, Trust and Probate Administration</b>	<b>3-0-3</b>
Fundamental concepts of the law of wills, trusts, and probate administration emphasizing the paralegal's role.		
<b>LGLA 1355</b>	<b>Family Law</b>	<b>3-0-3</b>
Fundamental concepts of family law including formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship with emphasis on the paralegal's role in family law.		
<b>LGLA 1372</b>	<b>National Security Law</b>	<b>3-0-3</b>
Emphasizes emerging issues of national security laws, terrorism and national security crimes, national security detentions and trials, military tribunals, and clandestine operations. It includes legal challenges to Intelligence Operations and Collection, as well as legal issues involved in detaining and interrogating terrorist suspects, and prosecution of accused terrorists and their supporters in criminal courts and before military tribunals.		
<b>LGLA 1391</b>	<b>Special Topics in Paralegal/Legal Assistance</b>	<b>3-0-3</b>
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.		

<b>LGLA 2303</b>	<b>Torts and Personal Injury Law</b>	<b>3-0-3</b>
Fundamental concepts of tort and personal injury law including intentional torts, negligence, and strict liability with emphasis on the paralegal's role.		
<b>LGLA 2311</b>	<b>Business Organizations</b>	<b>3-0-3</b>
Basic concepts of business organizations including law of agency, sole proprietorships, partnerships, corporations, and other emerging business entities with emphasis on the paralegal's role.		
<b>LGLA 2313</b>	<b>Criminal Law and Procedure</b>	<b>3-0-3</b>
Fundamental concepts of criminal law and procedure from arrest to final disposition including principles of federal and state law emphasizing the role of the paralegal in the criminal justice system.		
<b>LGLA 2321</b>	<b>Military Law</b>	<b>3-0-3</b>
Principles of operation and management of military law are presented as applicable to paralegals including detailed coverage of Uniform Code of Military Justice (UCMJ), claims, military administrative law, legal assistance, and civil law as it applies to the military.		
<b>LGLA 2333</b>	<b>Advanced Legal Document Preparation</b>	<b>3-0-3</b>
The use of office technology skills in preparation of legal documents by paralegals based on hypothetical situations drawn from various areas of law. Prerequisite LGLA 1345.		
<b>LGLA 2335</b>	<b>Advanced Civil Litigation</b>	<b>3-0-3</b>
Implementation of advanced civil litigation techniques with emphasis on the paralegal's role. Builds upon skills acquired in prior civil litigation courses. Prerequisite: LGLA 1345.		
<b>LGLA 2388</b>	<b>Internship- Paralegal/Legal Assistant</b>	<b>0-9-3</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Department approval required.		

## **LMGT Logistics (N)**

<b>LMGT 1319</b>	<b>Introduction to Business Logistics</b>	<b>3-0-3</b>
A systems approach to managing activities associated with traffic, transportation, inventory management, warehousing, packaging, order processing, and materials handling.		
<b>LMGT 1321</b>	<b>Introduction to Materials Handling</b>	<b>3-0-3</b>
Introduces the concepts and principles of materials management to include inventory control and forecasting activities.		
<b>LMGT 1323</b>	<b>Domestic and International Transportation Management</b>	<b>3-0-3</b>
An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.		
<b>LMGT 1325</b>	<b>Warehouse and Distribution Center Management</b>	<b>3-0-3</b>
Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time, and continuous replenishment.		

## **MATH Mathematics (T)**

<b>MATH 1314</b>	<b>College Algebra</b>	<b>3-0-3</b>
A study of relations and functions, polynomial functions and equations of degree higher than two, exponential and logarithmic functions and equations, matrices, and determinants, sequences and series, the binomial theorem, and mathematical induction. This course satisfies the mathematics requirement in most curricula, except mathematics and engineering. Please check your degree plan to determine the status of this course in your program of study. This course is occupationally related and serves as preparation in careers in sciences, social sciences, and business. This course does not meet the prerequisite for Pre-Calculus. Prerequisites: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course or concurrent enrollment in DSMA 0493/NCBO Intermediate Algebra. TSI Skills: M.		
<b>MATH 1316</b>	<b>Plane Trigonometry</b>	<b>3-0-3</b>
Topics include trigonometric functions, radian and degree measure, circular functions, solving right and oblique triangle problems, deriving and verifying trigonometric identities, inverse trigonometric functions, and solving conditional equations. Prerequisites: Appropriate placement score or completion of the appropriate level of Developmental Studies course. TSI Skills: M.		
<b>MATH 1324</b>	<b>Mathematics for Business and Social Sciences</b>	<b>3-0-3</b>
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. Prerequisite: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course. TSI Skills: M.		
<b>MATH 1325</b>	<b>Calculus for Business and Social Sciences</b>	<b>3-0-3</b>
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. Prerequisite: MATH 1324 or MATH 1414.		

<b>MATH 1332</b>	<b>Contemporary Mathematics (Quantitative Reasoning)</b>	<b>3-0-3</b>
Topics include sets, logic, number theory, geometric concepts, consumer finance, and an introduction to probability and statistics. Prerequisite: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course or concurrent enrollment in DSMA 0492/NCBO Beginning Algebra. This course is for non-mathematics, non-science, and non-business students. TSI Skills: M.		
<b>MATH 1342</b>	<b>Elementary Statistical Methods</b>	<b>3-0-3</b>
Topics include the collecting, organizing, and displaying of data; measures of central tendency, measures of variation, histograms, probability; probability distributions, binomial distributions, normal distributions, linear regression and their applications. Prerequisites: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course or concurrent enrollment in DSMA 0394/NCBO Developmental Math for Statistics. TSI Skills: M.		
<b>MATH 1350</b>	<b>Mathematics for Teachers I</b>	<b>3-0-3</b>
Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is the first semester of a two-semester sequence designed for prospective elementary and middle school teachers. This course extends the foundational ideas of mathematics so that prospective elementary/middle school teachers have an explicit understanding of elementary analysis. Prerequisite: A grade of "C" or above in MATH 1314.		
<b>MATH 1351</b>	<b>Mathematics for Teachers II</b>	<b>3-0-3</b>
Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. This is the second semester of a two-semester sequence designed for prospective elementary and middle school teachers. This course extends the foundational ideas of mathematics so that prospective elementary/middle school teachers have an explicit understanding of these concepts. Prerequisite: A grade of "C" or above in MATH 1314.		
<b>MATH 1414</b>	<b>College Algebra (Calculus Path)</b>	<b>4-0-4</b>
A study of relations and functions, polynomial functions and equations of degree higher than two, exponential and logarithmic functions and equations, matrices, and determinants, sequences and series, the binomial theorem, and mathematical induction. This course satisfies the mathematics requirement in most curricula, and is the prerequisite for Pre-Calculus. Please check your degree plan to determine the status of this course in your program of study. This course is occupationally related and serves as preparation for careers in mathematics and engineering. Prerequisites: Appropriate placement score or TSI exemption or completion of the appropriate level of Developmental Studies course. TSI Skills: M.		
<b>MATH 2318</b>	<b>Linear Algebra</b>	<b>3-0-3</b>
Topics include finite dimensional vector spaces; linear transformations and matrices; quadratic forms; and eigenvalues and eigenvectors. Prerequisite: MATH 2414 with a grade of "C" or better within the last 5 years.		
<b>MATH 2320</b>	<b>Differential Equations</b>	<b>3-0-3</b>
First and second order differential equations and their applications. Laplace Transforms, Fourier Series, and their applications. Prerequisite: MATH 2414 with a grade of "C" or better.		
<b>MATH 2412</b>	<b>Precalculus Math</b>	<b>4-0-4</b>
Topics include applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions. Prerequisite: MATH 1414 with a grade of "C" or better within the last 5 years. (A previous study of trigonometry is helpful but not required.)		
<b>MATH 2413</b>	<b>Calculus I</b>	<b>4-0-4</b>
Calculus I is a first course in calculus which emphasizes limits and continuity; the Fundamental Theorem of Calculus; derivatives and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule; the mean value theorem; rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions; and an application to calculation of areas. Prerequisite: MATH 2412 with a grade of "C" or above.		
<b>MATH 2414</b>	<b>Calculus II</b>	<b>4-0-4</b>
Calculus II is a second course in calculus which emphasizes differentiation and integration techniques of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; and improper integrals. Prerequisite: MATH 2413 with a grade of "C" or better within the last 5 years.		
<b>MATH 2415</b>	<b>Calculus III</b>	<b>4-0-4</b>
Calculus III is a third course in calculus which emphasizes vectors and vector-valued functions; partial differentiation; Lagrange multipliers; multiple integrals; Jacobians; and application of the line integral which includes Green's Theorem, the Divergence Theorem, and Stoke's Theorem. Prerequisite: MATH 2414 with a grade of "C" or better within the last 5 years.		
<b>MBST Construction Technology (N) see also CBFM, CNBT, CRPT, ELPT, PFPB and WDWK</b>		
<b>MBST 1507</b>	<b>Masonry I</b>	<b>2-7-5</b>
Introduction to masonry including safety, tools and equipment, masonry materials, theory, terminology, federal and state guidelines, building plans, mortar mixing and spreading. Emphasis on the fundamentals of laying bricks and block. Prerequisite: CRPT 1429.		
<b>MDCA Office Technology (N) see also HITT, POFI, POFM and POFT</b>		
<b>MDCA 1302</b>	<b>Human Disease/Pathophysiology</b>	<b>2-4-3</b>
A study of anatomy and physiology with emphasis on human pathophysiology, including etiology, prognosis, medical treatment, signs and symptoms of common diseases of all body systems. Prerequisite or Co-requisite: HITT 1305 or MDCA 1309 is recommended.		

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**MDCA 1309 Anatomy and Physiology for Medical Assistants 2-4-3**  
Emphasis on structure and function of human cells, tissues, organs, and systems with overview of common pathophysiology.

## **MLAB Medical Lab Technician (N)**

**MLAB 1231 Parasitology/Mycology 2-1-2**  
An introductory course in clinical parasitology, mycology, and virology. A study of the taxonomy, morphology, and pathogenesis of human parasites, fungi, and viruses and the practical application of laboratory procedures, quality control, quality assurance and safety. Prerequisite: MLAB 1470.

**MLAB 1235 Immunology/Serology 3-1-2**  
An introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and the principles of serological procedures as well as quality control, quality assurance, and safety.

**MLAB 1415 Hematology 3-3-4**  
The study of blood cells in normal and abnormal conditions. Instruction in the theory and practical application of routine and special hematology procedures, including quality control, quality assurance, safety, both manual and automated; red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. Prerequisite: MLAB 1470.

**MLAB 1470 Introduction to Clinical Laboratory Science/Urinalysis 3-3-4**  
An introduction to clinical laboratory science, including quality control, laboratory math, safety, and laboratory operations including basic laboratory equipment. An introduction to urinalysis and body fluid analysis will include anatomy and physiology of kidney, and physical, chemical, and microscopic examination of urine, cerebrospinal fluid, and other body fluids. Attention will be focused on basic didactic and practical techniques in the following laboratory areas: microscopy, phlebotomy, immunology, chemistry, hematology, and urinalysis.

**MLAB 2221 Molecular Diagnostics for Clinical Laboratory Science 2-2-2**  
A comprehensive overview of the fundamental principles of clinical molecular diagnostics and explores the use of molecular techniques in the diagnosis of disease.

**MLAB 2360 Clinical II - Medical Laboratory Technician 0-18-3**  
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. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Course may be repeated if topics and learning outcomes vary. Weekly site visits are conducted by the college faculty. Prerequisite: MLAB 2461.

**MLAB 2361 Clinical III - Medical Laboratory Technician 0-18-3**  
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. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Course may be repeated if topics and learning outcomes vary. Weekly site visits are conducted by the college faculty. Prerequisite: MLAB 2462, 2360.

**MLAB 2401 Clinical Chemistry 3-3-4**  
An introduction to the principles, procedures, physiological basis, and significance of testing performed in Clinical Chemistry. Also includes basic chemical laboratory technique, electrolytes and acid-base balance, proteins, carbohydrates, lipids, enzymes, metabolites, endocrine function, and toxicology and chemical analysis of body fluids. Prerequisite: MLAB 1415, 1470, BIOL, 2401, 2402, CHEM 1411, 1412, MATH 1314.

**MLAB 2431 Immunohematology 3-3-4**  
A study of blood antigens and antibodies. Presents quality control, basic laboratory techniques and safety. Includes the principles, procedures and clinical significance of test results in genetics, blood group and Rh typing, pre-transfusion testing, adverse effects of transfusions, and donor selection and components, and hemolytic disease of the newborn. Included in this course is a study of the theory and application of basic immunology including the principles of serological procedures. Prerequisite: MLAB 1415, 1470, BIOL 2401, 2402.

**MLAB 2434 Clinical Microbiology 3-3-4**  
Instruction in the theory, practical application, and pathogenesis of clinical microbiology, including collection, quality control, quality assurance, safety, setup, identification, susceptibility testing, and reporting results. Prerequisite: MLAB 1415, 1470.

**MLAB 2462 Clinical I - Medical Laboratory Technician 0-24-4**  
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. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Course may be repeated if topics and learning outcomes vary. Weekly site visits are conducted by the college faculty. Prerequisite: MLAB 1415, 1470, BIOL 2401, 2402, CHEM 1411, 1412, MATH 1314.

## **MRKG Business Administration and Management (N) see also BMGT, BUSG and HRPO**

**MRKG 1302 Principles of Retailing 3-0-3**  
Introduction to the retailing environment and its relationship to consumer demographics, trends, and traditional/nontraditional retailing markets. The employment of retailing techniques and the factors that influence modern retailing.

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**MRKG 1311 Principles of Marketing 3-0-3**  
Introduction to basic marketing functions; identification of consumer and organizational needs; explanation of economic, environmental, psychological, sociological, and global issues; and description and analysis of the importance of marketing research.

**MRKG 2333 Principles of Selling 3-0-3**  
Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect salespeople.

## **MSMG Military Science Management (ROTC) (N)**

**MSMG 1201 Introduction to the Army 2-2-2**  
This course focuses on introduction to the Army and basic soldier skills. It introduces Cadets to the Army and the Profession of Arms. Students will examine the Army Profession and what it means to be a professional in the U.S. Army. The overall focus is on developing basic knowledge and comprehension of the Army Leadership Requirements Model while gaining a complete understanding of the Reserve Officers' Training Corps (ROTC) program, its purpose in the Army, and its advantages for the student. Cadets also begin learning map reading and land navigation. Students will have initial classes on field craft, first aid, individual/team movement techniques that will include a weekly three hour lab facilitated by MS III Cadets and supervised by MS IV's and cadre. This course is occupationally related and serves as preparation for careers in Leadership and as a United States Army Officer. Prerequisite: None

**MSMG 1203 Foundations of Leadership 2-2-2**  
This course introduces Cadets to the personal challenges and competencies that are critical for effective leadership. Cadets learn how the personal development of life skills such as critical thinking, time management, goal setting, and communication. Cadets learn the basics of the communications process and the importance for leader's to develop the essential skills to effectively communicate in the Army. Cadets will begin learning the basics of squad level tactics that will be reinforced during a three hour weekly lab facilitated by MS III Cadets, supervised by MS IVs and cadre. This course is occupationally related and serves as preparation for careers in Leadership and as a United States Army Officer. Prerequisite: None

**MSMG 1310 Leadership and Ethics 2-2-3**  
This course focuses on leadership and ethics. The course adds depth to the Cadets knowledge of the different leadership styles. Cadets will conduct a leadership analysis of famous leaders and self-assessment of their own leadership style. The Army Profession is also stressed through understanding values, ethics and how to apply both to different situations they may encounter as a leader. Army values and ethics and their relationship to the Law of Land Warfare and philosophy of military service are also stressed. Students are then required to apply their knowledge outside the classroom in a hands-on performance-oriented environment during a three hour weekly lab facilitated by MS III Cadets, supervised by MS IV's and cadre. This course is occupationally related and serves as preparation for careers in Leadership and as a United States Army Officer. Prerequisite: MSMG 1203.

**MSMG 1312 Army Doctrine and Decision Making 2-2-3**  
This course focuses on Army doctrine and decision making. The course begins with analytical techniques, creative thinking skills and the Army problem solving process as related to situations faced by leaders when making decisions. TLPs and OPORD will lead Cadets to an understanding of Army Doctrine and Symbology. Squad tactics will be covered in classes on Unified Land Operations, Offensive Operations and Defensive Operations. Students are then required to apply their knowledge outside the classroom in a hands-on performance-oriented environment during a three hour weekly lab facilitated by MS III Cadets and supervised by cadre. This course is occupationally related and serves as preparation for careers in Leadership and as a United States Army Officer. Prerequisite: MSMG 1310.

## **MSSG Massage Therapy (N)**

**MSSG 1105 Hydrotherapy/Therapeutic Modalities 1-1-1**  
The use of accepted hydrotherapy and holistic healthcare modalities of external application of temperature for its reflexive effect.

**MSSG 1109 Health and Hygiene 1-1-1**  
The study of safety and sanitation practices including universal precautions. The importance of proper body mechanics, maintaining a healthy lifestyle, maintaining the massage environment, and the advantage of therapeutic relationships is also included.

**MSSG 1207 Business Practices and Professional Ethics 1-3-2**  
The study of physical and financial office practices and marketing. Includes ethical practices for massage therapists as established by law or regulatory agency.

**MSSG 1371 Healthcare Communications 2-2-3**  
This local needs course addresses massage therapy in three healthcare settings. Licensed Massage Therapy Instructors, working as part of a healthcare team in chiropractic, behavioral health and hospital settings, take students through the intricacies of massage therapy in these settings. This course includes SOAP Charting and an introduction to documentation for insurance claims.

**MSSG 1411 Massage Therapy Fundamentals I 2-6-4**  
Introduction to the theory and the application of skills necessary to perform basic massage skills. Prerequisite or Corequisite: MSSG 1413.

**MSSG 1413 Anatomy and Physiology for Massage 3-3-4**  
In-depth coverage of the structure and function of the human body. Includes cell structure and function, tissues, body organization, and the integumentary, skeletal, muscular, nervous, and endocrine systems. Emphasizes homeostasis/wellness care. Meets the minimum 75-contact-hour requirement for Anatomy and Physiology for licensure.

**MSSG 2101 Chair Massage 0-2-1**  
Therapy and practice of chair massage using proper techniques for a variety of settings. Prerequisite or Corequisite: MSSG 1411.

<b>MSSG 2130</b>	<b>Advanced Massage Therapy Techniques</b>	<b>0-2-1</b>
Advanced concepts of massage. Emphasizes specialized techniques and assessment of client needs to identify a specific plan of care. Prerequisite: MSSG 1105.		
<b>MSSG 2287</b>	<b>Internship – Massage Therapy/Therapeutic Massage</b>	<b>0-8-2</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: MSSG 1413, MSSG 1109, MSSG 1207, MSSG 1411, MSSG 2101, MSSG 2313, MSSG 1105, MSSG 2314, MSSG 2311, MSSG 2130 and MSSG 1371.		
<b>MSSG 2311</b>	<b>Massage Therapy Fundamental II</b>	<b>2-4-3</b>
A continuation of Massage Therapy Fundamentals I. Emphasizes specialized techniques and assessment of client needs to identify a specific plan of care. Completes the requirements for Massage Techniques for licensure. Prerequisites: MSSG 1413 and MSSG 1411 Corequisite: MSSG 2313.		
<b>MSSG 2313</b>	<b>Kinesiology for Massage</b>	<b>2-2-3</b>
Applied study of human kinesiology. Muscle movements and dysfunctions will be discussed and palpated. Includes theory and practice of functional muscle testing. Prerequisite: MSSG 1413.		
<b>MSSG 2314</b>	<b>Pathology for Massage</b>	<b>2-2-3</b>
General discussion of pathologies as they relate to massage therapy. Includes universal precautions and their management in professional practice. Also covers etiology, signs, symptoms, and the physiological and psychological reactions to disease and injury. Prerequisite: MSSG 1413.		

## MUAP Music Applied (T)

INDIVIDUALIZED INSTRUCTION IS OFFERED IN THE FOLLOWING AREAS - Voice, Piano, Winds, Strings (including guitar), Brass, Percussion. Literature from all style periods and technical skills will be emphasized. One half hour lesson per week for Levels I and II. One hour lesson per week for Levels III and IV. One hour practice per day is required. Instructor approval. Special fees apply.

<b>Course</b>	<b>Title</b>	<b>Prerequisite</b>	<b>Credit</b>
MUAP 1137	Brass I	None	0-1-1
MUAP 1138	Brass II	MUAP 1137	0-1-1
MUAP 2237	Brass III	MUAP 1138	0-2-2
MUAP 2238	Brass IV	MUAP 2237	0-2-2
MUAP 1169	Piano I	None	0-1-1
MUAP 1170	Piano II	MUAP 1169	0-1-1
MUAP 2269	Piano III	MUAP 1170	0-2-2
MUAP 2270	Piano IV	MUAP 2269	0-2-2
MUAP 1157	Percussion I	None	0-1-1
MUAP 1158	Percussion II	MUAP 1157	0-1-1
MUAP 2257	Percussion III	MUAP 1158	0-2-2
MUAP 2258	Percussion IV	MUAP 2257	0-2-2
MUAP 1101	Strings I	None	0-1-1
MUAP 1102	Strings II	MUAP 1101	0-1-1
MUAP 2201	Strings III	MUAP 1102	0-2-2
MUAP 2202	Strings IV	MUAP 2201	0-2-2
MUAP 1181	Voice I	None	0-1-1
MUAP 1182	Voice II	MUAP 1181	0-1-1
MUAP 2281	Voice III	MUAP 1182	0-2-2
MUAP 2282	Voice IV	MUAP 2281	0-2-2
MUAP 1117	Woodwinds I	None	0-1-1
MUAP 1118	Woodwinds II	MUAP 1117	0-1-1
MUAP 2217	Woodwinds III	MUAP 1118	0-2-2
MUAP 2218	Woodwinds IV	MUAP 2217	0-2-2

## MUEN Music (T)

<b>MUEN 1132</b>	<b>Chamber (Small) Instrumental Ensembles</b>	<b>1-1-1</b>
Smaller instrumental ensembles: wind, string, percussion, piano, or laboratory (jazz, rock, fusion, or contemporary).		
<b>MUEN 1142</b>	<b>Major (Large) Vocal Ensemble</b>	<b>1-1-1</b>
This course is open to all students. The ensemble will perform a variety of styles of music and will perform on and off campus. Music majors are required to take one ensemble each semester. Prerequisite: none		
<b>MUEN 1152</b>	<b>Chamber (Small) Vocal Ensembles</b>	<b>1-1-1</b>
Vocal ensemble, glee club, madrigal, or small swing choir.		

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## MUSI Music (T)

<b>MUSI 1116</b>	<b>Sight Singing and Ear Training I</b>	<b>1-1-1</b>
This course is designed to help the student develop the aural skills pertinent to proficiency in music theory. It includes the study and proper identification of melodic patterns, intervals and triads, and exercises in melodic dictation. This course should be taken concurrently with MUSI 1311. Prerequisite: None. This is a required course for music majors.		
<b>MUSI 1117</b>	<b>Sight Singing and Ear Training II</b>	<b>1-1-1</b>
A continuation of Ear Training and Sight Singing I. Sight singing, intervals, triads, and seventh chords, asymmetric and mixed meters. Exercises in melodic and harmonic dictation. Prerequisite: MUSI 1116. This course should be taken concurrently with MUSI 1312. This is a required course for music majors.		
<b>MUSI 1181</b>	<b>Piano Class I</b>	<b>1-1-1</b>
Introduction to the keyboard. Beginning and elementary level teaching literature and technical skills will be emphasized. Course is geared towards students who have little or no previous musical experience. Five hours weekly practice is required. Open to all students. Prerequisite: None.		
<b>MUSI 1183</b>	<b>Voice Class I</b>	<b>1-1-1</b>
This course is concerned with the most basic principles of singing; correct breathing, posture and the proper use of the vocal anatomy (i.e., palate, larynx, and tongue). Basic vocal literature will be introduced. Open to All Students. Prerequisite: None.		
<b>MUSI 1188</b>	<b>Percussion Class I</b>	<b>1-1-1</b>
Class instruction in the fundamental techniques of playing and teaching percussion instruments. Prerequisite: None.		
<b>MUSI 1192</b>	<b>Guitar Class I</b>	<b>1-1-1</b>
This course is an introduction to the guitar. Beginning level literature and technical skills will be emphasized. Course is geared towards students who have little or no musical experience. Practice outside class is required. Open to all students. Prerequisite: None.		
<b>MUSI 1303</b>	<b>Fundamentals of Music</b>	<b>3-0-3</b>
This course is to lay the foundation for music literacy. Introduction to the basic elements of music theory, including scales, intervals, keys, triads, elementary ear training, notation, meter, and rhythm. Courses does not apply to a music major degree.		
<b>MUSI 1306</b>	<b>Music Appreciation</b>	<b>3-0-3</b>
This course is designed for the general college student. It emphasizes intelligent, directed listening to music with attention focused on the materials, the forms and the periods and styles of music. Course work will also cover the relation of music to other areas of cultural development. Prerequisite: None.		
<b>MUSI 1307</b>	<b>Music Literature</b>	<b>3-0-3</b>
An in-depth study of the music, literature and history from the 15th through the 21st centuries. Emphasis will be placed on principle forms and composers of the literature of those historical periods. This course is designed for music majors, but is also appropriate for any student who has prior musical knowledge. Prerequisite: None.		
<b>MUSI 1311</b>	<b>Music Theory I</b>	<b>3-0-3</b>
A continuation of Music Fundamentals. Harmonic progressions, seventh chords, cadences, pentatonic, and modal scales with an introduction to four-part writing. Prerequisite: Placement exam by the instructor. This course should be taken concurrently with MUSI 1116. This course is required for music majors.		
<b>MUSI 1312</b>	<b>Music Theory II</b>	<b>3-0-3</b>
A continuation of Music Theory I with an introduction to four-part writing and analysis of music. Prerequisite: MUSI 1311 or placement exam by the instructor. This course should be taken concurrently with MUSI 1117. This course is required for music majors.		
<b>MUSI 2116</b>	<b>Sight Singing and Ear Training III</b>	<b>1-1-1</b>
A continuation of Sight Singing and Ear Training II. Singing more difficult tonal music in various clefs, aural study including dictation of more complex rhythm, melody, chromatic harmony, and extended tertian structures This course should be taken concurrently with MUSI 2312. This is a required course for music majors. Prerequisite: MUSI 1116		
<b>MUSI 2117</b>	<b>Sight Singing and Ear Training IV</b>	<b>1-1-1</b>
A continuation of Sight Singing and Ear Training III. Singing advanced tonal music and introduction of modal and post-tonal melodies. Aural study including dictation of advanced rhythm, melody, and harmony This course should be taken concurrently with MUSI 2312. This is a required course for music majors. Prerequisite: MUSI 2116		
<b>MUSI 2311</b>	<b>Music Theory III</b>	<b>3-0-3</b>
A study of the harmonic materials of the 18th and 19th centuries through analysis and written exercises. Dominant and secondary seventh chords, secondary dominants, the diminished seventh chord, the Neapolitan sixth, the augmented sixth chords, nonharmonic tones, harmonic tones, harmonic dictation for the keyboard. Prerequisite: MUSI 1312. This course is required for music majors.		
<b>MUSI 2312</b>	<b>Music Theory IV</b>	<b>3-0-3</b>
The study of harmony as an organizing element of the large-scale musical structure. Diatonic, chromatic and inharmonic modulations; the modulating sequence. Melody harmonization, analysis of larger works, harmonic dictation. Modulation to related and distant keys on the keyboard. Prerequisite: MUSI 2311. This course is required for music majors.		
<b>MUSI 2389</b>	<b>Academic Cooperative</b>	<b>2-4-3</b>
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 music.		

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## **PFPB Construction Technology (N)** see also CBFM, CNBT, CRPT, ELPT, MBST and WDWK

**PFPB 2409 Residential Const. Plumbing I** 3-3-4  
Skill development in the procedures and techniques employed by a plumber in the rough-in and top-out stages of a new home or the remodeling of an older home.

**PFPB 2445 Residential Const. Plumbing II** 3-3-4  
Installation of residential plumbing fixtures used in single- and multi-family housing. Prerequisite: PFPB 2409.

## **PHIL Philosophy (T)**

**PHIL 1301 Introduction to Philosophy** 3-0-3  
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. TSI Skills: R.

**PHIL 1304 Introduction to World Religions** 3-0-3  
A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity and Islam.

**PHIL 2303 Introduction to Logic** 3-0-3  
The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules. TSI Skills: R.

**PHIL 2306 Introduction to Ethics** 3-0-3  
The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value. TSI Skills: R.

**PHIL 2307 Introduction to Social and Political Philosophy** 3-0-3  
A study of major issues in social and political theory and/or the work of major philosophical figures in this area.

**PHIL 2321 Philosophy of Religion** 3-0-3  
A study of the major issues in the philosophy of religion such as the existence and nature of God, the relationships between faith and reason, the nature of religious language, religious experience, and the problem of evil.

## **PHYS Physics (T)**

**PHYS 1401 College Physics I** 3-3-4  
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. Laboratory activities will reinforce concepts discussed in lecture. Prerequisite: MATH 1314 and (MATH 1316 OR MATH 2412) Co-requisite: PHYX 1401.

**PHYS 1402 College Physics II** 3-3-4  
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. Laboratory activities will reinforce concepts discussed in lecture. Prerequisite: PHYS 1401. Co-requisite: PHYX 1402.

**PHYS 1403 Stars and Galaxies** 3-2-4  
This course is a study of stars, galaxies, and the universe outside our solar system. Laboratory activities will reinforce concepts discussed in lecture. TSI Skills: M.

**PHYS 1404 Solar System** 3-2-4  
This course is a study of the sun and its solar system, including its origin. Laboratory activities will reinforce concepts discussed in lecture. TSI Skills: M.

**PHYS 1405 Elementary Physics I** 3-3-4  
Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. Offered at C&I locations only.

**PHYS 1415 Physical Science I** 3-3-4  
Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology. Prerequisite: None. Co-requisite: PHYX 1415.

**PHYS 2425 University Physics I** 3-3-4  
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. Laboratory activities will reinforce concepts discussed in lecture. Prerequisite: MATH 2413. Co-requisite: PHYX 2425.

**PHYS 2426 University Physics II** 3-3-4  
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. Laboratory activities will reinforce concepts discussed in lecture. Prerequisites: PHYS 2425 and MATH 2414. Co-requisite: PHYX 2426.



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## PLAB Phlebotomy (N)

**PLAB 1323 Phlebotomy 2-2-3**  
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.

**PLAB 1391 Special Topics in Phlebotomy/Phlebotomist 3-3-3**  
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.

**PLAB 1460 Clinical: Phlebotomy/Phlebotomist 0-12-4**  
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.

## POFI Office Technology (N) see also HITT, MDCA, POFM and POFT

**POFI 1301 Computer Applications I 2-4-3**  
This course is an overview of office computer applications including current terminology and technology. An introduction to computer hardware, software applications, and procedures. Prerequisite: Keyboarding skills or concurrent enrollment in keyboarding course recommended.

**POFI 1349 Spreadsheets 2-4-3**  
Skill development in concepts, procedures, and application of spreadsheets. Prerequisite: POFI 1301.

**POFI 2301 Word Processing 2-4-3**  
Word processing software focusing on business applications. Prerequisite: POFT 1329 with a minimum grade of "C".

**POFI 2331 Desktop Publishing 2-4-3**  
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. Prerequisite: Keyboarding and word processing skills or concurrent enrollment in word processing course recommended.

**POFI 2386 Internship - Business/Office Automation/Technology/Data Entry 0-9-3**  
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. Completion of course requires 144 contact hours as well as strong keyboarding/word processing proficiency and written communication skills. Concurrent enrollment in or completion of first year Office Technology courses recommended. Departmental approval required.

## POFM Office Technology (N) see also HITT, MDCA, POFI and POFT

**POFM 1302 Medical Software Applications 2-4-3**  
Medical software applications for the management and operation of health care information systems. Keyboarding proficiency recommended.

**POFM 1317 Medical Administrative Support 2-4-3**  
Instruction in medical office procedures including appointment scheduling, medical records creation and maintenance, telephone communications, coding, billing, collecting, and third party reimbursement.

**POFM 1327 Medical Insurance 2-4-3**  
Survey of medical insurance including the life cycle of various claim forms, terminology, patient relations, and legal and ethical issues. Prerequisite: HITT 1305. Keyboarding and computer skills recommended.

**POFM 2310 Intermediate Medical Coding 2-4-3**  
Assignment and application of various coding guidelines with emphasis on physician billing and regulatory requirements. Includes code selection for Evaluation and Management (E/M) and Medical/Surgical cases. Prerequisites: HITT 1341.

**POFM 2386 Internship - Medical Administrative/Executive Assistant and Medical Secretary 0-9-3**  
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. Departmental approval required upon completion of certificate requirements.

## POFT Office Technology (N) see also HITT, MDCA, POFI and POFM

**POFT 1301 Business English 2-4-3**  
Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business. Keyboarding skills recommended.

**POFT 1307 Proofreading and Editing 2-3-3**  
Instruction in proofreading and editing skills necessary to assure accuracy in business documents.

<b>POFT 1309</b>	<b>Administrative Office Procedures I</b>	<b>2-4-3</b>
Study of current office procedures, duties and responsibilities applicable to an office environment.		
<b>POFT 1319</b>	<b>Records and Information Management I</b>	<b>2-4-3</b>
Introduction to basic records and information management systems including manual and electronic filing. Keyboarding skills or other computer literacy course recommended.		
<b>POFT 1325</b>	<b>Business Math Using Technology</b>	<b>2-4-3</b>
Skills development in business math problem solving using technology.		
<b>POFT 1329</b>	<b>Beginning Keyboarding</b>	<b>2-4-3</b>
Skill development in keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.		
<b>POFT 1349</b>	<b>Administrative Office Procedures II</b>	<b>2-4-3</b>
In-depth coverage of office procedures with emphasis on decision making, goal setting, management theories, and critical thinking. Prerequisite: POFT 1301, POFT 1329, POFT 1309 and concurrent enrollment in or completion of second year office technology courses recommended.		
<b>POFT 2312</b>	<b>Business Correspondence and Communication</b>	<b>2-4-3</b>
Development of writing and presentation skills to produce effective business communications. Prerequisites: POFT 1301 or ENGL 1301.		
<b>POFT 2333</b>	<b>Advanced Keyboarding</b>	<b>2-4-3</b>
A continuation of keyboarding skills in advanced document formatting emphasizing speed, accuracy, and decision-making. Prerequisite: POFT 1329 and POFI 2301.		
<b>POFT 2386</b>	<b>Internship - Administrative Assistant and Secretarial Science, General</b>	<b>0-9-3</b>
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. Completion of course requires 144 contact hours as well as strong keyboarding/word processing proficiency and written communication skills. Concurrent enrollment in or completion of first year Office Technology courses recommended. Departmental approval required.		

## **PSTR Hospitality Management (N) see also CHEF, HAMG, IFWA, RSTO and TRVM**

<b>PSTR 1301</b>	<b>Fundamentals of Baking</b>	<b>2-4-3</b>
Fundamentals of baking including dough, quick breads, pies, cakes, cookies, and tarts. Instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the evaluation of baked products. National Restaurant Association (NRA) Food Production Certificate Examination.		
<b>PSTR 1302</b>	<b>Cake Baking and Production</b>	<b>2-4-3</b>
Principles and techniques of cake production. Emphasizes ingredient identification, functions, mixing, and baking. Prerequisite: PSTR 1301.		
<b>PSTR 1305</b>	<b>Breads and Rolls</b>	<b>2-4-3</b>
Concentration on fundamentals of chemically and yeast raised breads and rolls. Instruction on commercial preparation of a wide variety of products.		
<b>PSTR 1306</b>	<b>Cake Decorating I</b>	<b>2-4-3</b>
Introduction to skills, concepts and techniques of cake decorating.		
<b>PSTR 2307</b>	<b>Cake Decorating II</b>	<b>1-5-3</b>
A course in decoration of specialized and seasonal products. Prerequisite: PSTR 1306.		
<b>PSTR 2331</b>	<b>Advanced Pastry Shop</b>	<b>2-4-3</b>
A study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Emphasis on advanced techniques. Prerequisite: PSTR 1301.		
<b>PSTR 2350</b>	<b>Wedding Cakes</b>	<b>1-5-3</b>
Skills, concepts, and techniques for preparing wedding cakes. Includes marzipan, molding chocolate-rolled fondant, chocolate garnish, flower making, and royal icing piping work. Prerequisite: PSTR 1306.		

## **PSYC Psychology (T)**

<b>PSYC 1300</b>	<b>Learning Framework</b>	<b>3-0-3</b>
A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that impact learning, and 3) 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.		
<b>PSYC 2301</b>	<b>General Psychology</b>	<b>3-0-3</b>
Survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes. TSI Skills: R.		

<b>PSYC 2308</b>	<b>Child Psychology</b>	<b>3-0-3</b>
This course will address psychological development from conception through middle childhood with references to physical, cognitive, social and personality changes. Students will examine the interplay of biological factors, human interaction, social structures and cultural forces in development. TSI Skills: R.		
<b>PSYC 2314</b>	<b>Life Span Growth and Development</b>	<b>3-0-3</b>
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. TSI Skills: R.		
<b>PSYC 2315</b>	<b>Psychology of Adjustment</b>	<b>3-0-3</b>
Study of the processes involved in adjustment of individuals to their personal and social environments. TSI Skills: R.		
<b>PSYC 2316</b>	<b>Psychology of Personality</b>	<b>3-0-3</b>
The study of various approaches to determinants, development, and assessment of personality. TSI Skills: R.		

## **PSYT Mental Health Services (N) see also CMSW, DAAC and SCWK**

<b>PSYT 1309</b>	<b>Health Psychology</b>	<b>2-2-3</b>
An exploration of behavioral medicine and the interdependence of mind, body, and spirit. Topics include stress and its effect on body systems, techniques for improving and maintaining health and physiological, psychological, behavioral, and social effects of disease and disabilities.		
<b>PSYT 1429</b>	<b>Interviewing and Communication Skills</b>	<b>3-3-4</b>
This course provides instruction for the development of interviewing and communication skills in professional relationships. Students are encouraged to explore personal issues which may affect their ability to remain objective in the clinical setting. Demonstration of skills learned serves as an integral part of the lab process. Recommended: to be taken in the first semester.		
<b>PSYT 2321</b>	<b>Crisis Intervention</b>	<b>2-2-3</b>
Examination of crisis management and intervention theories in assisting clients in crisis situations. This course introduces assessment skills and techniques in rating the severity of crisis in three areas; affective, cognitive and behavioral.		
<b>PSYT 2331</b>	<b>Abnormal Psychology</b>	<b>2-2-3</b>
An examination and assessment of the symptoms, etiology, and treatment procedures of mental, emotional, and behavioral disorders. Attention is paid to diagnostic criteria, predisposing factors, and dual diagnosis. Recommended prerequisite: PSYC 2301.		
<b>PSYT 2345</b>	<b>Principles of Behavior Management and Modification</b>	<b>2-2-3</b>
An analysis of behavior management and cognitive theories and techniques with emphasis on their applications. Topics covered include basic principles of behavior and behavior change, procedures to establish new behaviors, and procedures to increase desirable behaviors and decrease undesirable behaviors. Genetic, cultural, environmental, and social factors will be considered, as well as predisposing factors, perceptions, and prior learning.		

## **RBTC Robotics (N)**

<b>RBTC 1301</b>	<b>Programmable Logic Controllers</b>	<b>3-0-3</b>
A study in programmable logic controllers (PLC). Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming.		
<b>RBTC 1305</b>	<b>Robotic Fundamentals</b>	<b>3-0-3</b>
An introduction to flexible automation. Topics include installation, repair, maintenance, and development of flexible robotic manufacturing systems.		
<b>RBTC 1343</b>	<b>Robotics</b>	<b>3-0-3</b>
This course will identify and discuss safety, installation, and maintenance concepts; describe the various power sources used in robotics; identify the types of robot interface systems; explain and demonstrate programming methods and control devices; and demonstrate the types and uses of end effectors.		
<b>RBTC 1345</b>	<b>Robot Interfacing</b>	<b>2-4-3</b>
A study of the basic principles of robot controllers, controller input/output, memory, and interfacing with computer integrated manufacturing.		
<b>RBTC 1347</b>	<b>Electro-Mechanical Devices</b>	<b>3-0-3</b>
A study of electro-mechanical devices found in robotic systems. Includes transformers, switches, and solid state relays.		
<b>RBTC 1351</b>	<b>Robotics Mechanisms</b>	<b>3-0-3</b>
The application of principles and the calculation of practical problems involving four bar linkages, cams, gears, and gear trains. Topics include vector quantities, angular displacement, motion concepts, velocities, and motions.		
<b>RBTC 1355</b>	<b>Sensors</b>	<b>3-0-3</b>
Study of basic principles of industrial sensors for automated systems. Emphasis on the operation and application of position, rate, proximity, opto-electronics, ranging, and pressure switches.		

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**RBTC 1391 Special Topics in Robotics Technology/Technician 3-0-3**

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.

**RBTC 2339 Robot Programming and Diagnostics 3-0-3**

Emphasis on the programming of industrial robots, the development of programming techniques, and the diagnosis of faults in systems.

**RBTC 2345 Robot Application, Set-up, and Testing 2-4-3**

A capstone course that provides the student with laboratory experience in the installation, set-up, and testing of robotic cells. Topics include maintenance.

**RELE Real Estate (N)****RELE 1200 Contract Forms and Addenda 2-0-2**

Promulgated Contract Forms, which shall include but is not limited to unauthorized practice of law, broker-lawyer committee, current promulgated forms, commission rules governing use forms and case studies involving use of forms. This course meets the Texas Real Estate Licensing Act (TRELA) requirement for a core course on Real Estate contract law.

**RELE 1219 Real Estate Finance 2-0-2**

Monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity laws affecting mortgage lending, Community Reinvestment Act, and the state housing agency. This course meets the Texas Real Estate Licensing Act (TRELA) requirement for a core course on Real Estate contract law.

**RELE 1303 Real Estate Appraisal 3-0-3**

A study of the central purposes and functions of an appraisal, social and economic determinants of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting.

**RELE 1311 Law of Contracts 3-0-3**

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. This course meets the Texas Real Estate Licensing Act (TRELA) requirement for a core course on Real Estate contract law.

**RELE 1315 Property Management 3-0-3**

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.

**RELE 1325 Real Estate Mathematics 3-0-3**

Basic arithmetic skills. Includes mathematical logic, percentages, interest, time value of money, depreciation, amortization, proration, and estimation of closing statements.

**RELE 1406 Real Estate Principles 4-0-4**

An overview of licensing as a real estate broker and 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. Also covers at least three hours of classroom instruction on federal, state, and local laws relating to housing, discrimination, housing credit discrimination, and community real estate principles reinvestment. This course meets the Texas Real Estate Licensing Act (TRELA) requirements for a core course on Real Estate principles. Fulfills the 60-hour requirement for salesperson license.

**RELE 2301 Law of Agency 3-0-3**

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 representation procedures, and the disclosure of agency. This course meets the Texas Real Estate Licensing Act (TRELA) requirement for a core course on Real Estate Agency Law.

**RELE 2488 Internship- Real Estate 0-19-4**

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. Prerequisites: RELE 1311, 1406, 2301, and consent of the Department Chair.

**RELE 2489 Internship- Real Estate 0-19-4**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: RELE 2488 or BMGT 2488 or BMGT 2370 and consent of the Department Chair.

**RNSG Nursing (N) see also HPRS****RNSG 1115 Health Assessment 0-3-1**

Development of skills and techniques required for a comprehensive nursing health assessment within a legal/ethical framework. This course lends itself to a blocked approach. The concepts of communication, caring, community will be included throughout the course. Prerequisite: HPRS 2300, BIOL 2401, BIOL 2420, ENGL 1301. Co-requisite: RNSG 1413, RNSG 1262, BIOL 2402.

<b>RNSG 1229</b>	<b>Integrated Nursing Skills II</b>	<b>1-2-2</b>
Study of the concepts and principles necessary to perform intermediate or advanced nursing skills for care of diverse patients across the life span. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. The concepts of communication, caring community, and clinical reasoning are used throughout the course. Prerequisite: Students must be Licensed Vocational Nurses, or certified EMT-Paramedic and receive Department Chair consent prior to enrolling. Prerequisites: BIOL 2401, ENGL 1301, PSYC 2301. Co-Requisite: BIOL 2402, BIOL 2420, HPRS 2300.		
<b>RNSG 1262</b>	<b>Clinical-Nursing I (RN Training)</b>	<b>0-9-2</b>
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. The concepts of communication, caring, community, and clinical reasoning are used throughout the course. Prerequisites: BIOL 2401, BIOL 2420, ENGL 1301, HPRS 2300. Co-requisites: RNSG 1115, RNSG 1413, BIOL 2402.		
<b>RNSG 1331</b>	<b>Principles of Clinical Decision-Making</b>	<b>2-3-3</b>
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. The concepts of communication, caring, community, and clinical reasoning are used throughout the course. Prerequisite: ENGL 1301, HPRS 2300, BIOL 2401, BIOL 2402, BIOL 2420, RNSG 1115, RNSG 1413, RNSG 1262. Co-requisites: PSYC 2301, RNSG 2213, RNSG 1363. Articulation Option Prerequisites: RNSG 1229, HPRS 2300, PSYC 2301, ENG 1301, BIOL 2401, BIOL 2402, BIOL 2420. Articulation Option Co-requisites: RNSG 2213, RNSG 1363, PSYC 2314.		
<b>RNSG 1347</b>	<b>Concepts of Clinical Decision-Making</b>	<b>2-3-3</b>
Integration of previous knowledge and skills into the continued development of the professional nurse as a provider of patient- centered care, patient safety advocate, member or health care team, and member of the profession. Emphasis on clinical decision-making for clients in medical-surgical settings experiencing health problems involving gastrointestinal disorders, endocrine and metabolic disorders, reproductive and sexual disorders, musculoskeletal disorders, eye-ear-nose-throat disorders and integumentary disorders. Discussion or knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. The concepts or communication, caring, community, and clinical reasoning are used throughout the course. Prerequisites: PSYC 2301, RNSG 1331, RNSG 2213, RNSG 1363. Co-requisites: RNSG 1412, PSYC 2314, RNSG 2362. Articulation Option Prerequisite: PSYC 2314.		
<b>RNSG 1363</b>	<b>Clinical -Nursing II</b>	<b>0-18-3</b>
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. The concepts of communication, caring, community, and clinical reasoning are used throughout the course. Clinical education is an unpaid learning experience. Prerequisites: BIOL 2402, RNSG 1115, RNSG 1413, RNSG 1262. Co-requisites: RNSG 1331, RNSG 2213, PSYC 2301. Articulation Option Co-requisite: PSYC 2314, RNSG 1331, RNSG 2213.		
<b>RNSG 1412</b>	<b>Nursing Care of Childbearing and Childrearing Family</b>	<b>3-3-4</b>
Study of the concepts related to the provision of nursing care for childbearing and childrearing families; application or systematic problem-solving processes and critical thinking skills, including a focus on the childbearing family during the perinatal periods and the childbearing family from birth to adolescence; and competency in knowledge, judgment, skill and professional values within a legal/ethical framework. This course lends itself to a blocked approach. The concepts of communication, caring community, and clinical reasoning are used throughout the course. Prerequisite: RNSG 1331, RNSG 2213, RNSG 1363, PSYC 2301. Co-Requisites: RNSG 1347, RNSG 2362, PSYC 2314.		
<b>RNSG 1413</b>	<b>Foundations for Nursing Practice</b>	<b>2-7-4</b>
Introduction to the role of the professional nurse as provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Content includes fundamental concepts of nursing practice, history of professional nursing, and a systematic framework for decision- making and critical thinking. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach. The concepts of communication, caring, community, and clinical reasoning are included throughout the course. Prerequisite: BIOL 2401, BIOL 2420, ENGL 1301, HPRS 2300. Co-requisites: RNSG 1262, RNSG 1115, BIOL 2402.		
<b>RNSG 2213</b>	<b>Mental Health Nursing</b>	<b>1-3-2</b>
Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. The concepts of communication, caring, community, and clinical reasoning will be included throughout the course. This course lends itself to a blocked approach. Prerequisites: BIOL 2402. RNSG 1115, RNSG1413, RNSG 1262. Co-requisites: RNSG 1331, RNSG 1363, PSYC 2301. Articulation Option Prerequisites: RNSG 1229, HPRS 2300, BIOL 2402, BIOL 2420. Articulation Option Co-requisites: RNSG 1363, RNSG 1331, PSYC 2314.		
<b>RNSG 2221</b>	<b>Professional Nursing Leadership and Management</b>	<b>1-3-2</b>
Exploration of leadership and management principles applicable to the roles of the professional nurse. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. The concepts of communication, caring, community and clinical reasoning will be included throughout the course. Prerequisites: RNSG 1347, RNSG 1412, RNSG 2362, PSYC2314. Co-requisites: RNSG 2331, RNSG 2363, ELCT.		
<b>RNSG 2331</b>	<b>Advanced Concepts in Adult Health</b>	<b>2-3-3</b>
Application of advanced concepts and skills for the development of the professional nurses roles in caring for adult patients and families. Emphasis on advanced knowledge, judgment, skills and professional values within a legal/ethical framework. The concepts of communication, caring community, and clinical reasoning are used throughout the course. Prerequisite: RNSG 1347, RNSG 1412, RNSG 2362, PSYC 2314. Co-requisites: RNSG 2221. RNSG 2363, ELCT.		

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**RNSG 2362 Clinical - Nursing III (RN Training) 0-18-3**

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. The concepts of communication, caring, community, and clinical reasoning are used throughout the course. Prerequisites: PSYC 2301, RNSG 2213, RNSG 1331, RNSG 1363. Co-requisites: RNSG 1347, RNSG 1412, PSYC 2314.

**RNSG 2363 Clinical-Nursing IV (RN Training) 0-18-3**

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. The concepts of communication, caring, community, and clinical reasoning are used throughout the course. Prerequisites: RNSG 1347, RNSG 1412, RNSG 2362, PSYC 2314. Co-requisites: RNSG 2331, RNSG 2221, ELCT.

**RSTO Hospitality Management (N) see also CHEF, HAMG, IFWA, PSTR and TRVM****RSTO 1204 Dining Room Service 3-0-2**

Introduces the principles, concepts, and systems of professional table service. Topics include dining room organization, scheduling, and management of food service personnel.

**RSTO 1301 Beverage Management 3-0-3**

A study of the beverage service of the hospitality industry including spirits, wines, beers, and non alcoholic beverages. Topics include purchasing, resource control, legislation, marketing, physical plant requirements, staffing, service, and the selection of wines to enhance foods.

**RSTO 1313 Hospitality Supervision 3-0-3**

Fundamentals of recruiting, selection, and training of food service and hospitality personnel. Topics include job descriptions, schedules, work improvement, motivation, and applicable personnel laws and regulations. Emphasis on leadership development.

**RSTO 1321 Menu Management 3-0-3**

A study of the food service principles involved in menu planning, layout, and evaluation for a variety of types of facilities and service methods. Emphasis on analysis of menu profitability, modification, commodity use, and other activities generated by the menu.

**RSTO 1325 Purchasing for Hospitality Operations 3-0-3**

Study of purchasing and inventory management of foods and other supplies to include development of purchase specifications, determination of order quantities, formal and informal price comparisons, proper receiving procedures, storage management, and issue procedures. Emphasis on product cost analysis, yields, pricing formulas, controls, and record keeping at each stage of the purchasing cycle.

**RUSS Russian (T)****RUSS 1411 Beginning Russian I 4-2-4**

This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

**RUSS 1412 Beginning Russian II 4-2-4**

Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: RUSS 1411 with a grade of "C" or above.

**RUSS 2311 Intermediate Russian I 3-0-3**

This course includes grammar review, composition, and reading with conversation based on material read. Prerequisites: RUSS 1411 and 1412 with a grade of "C" or above.

**RUSS 2312 Intermediate Russian II 3-0-3**

This course continues reading and drill on syntax as needed for reading, composition, and conversation. Prerequisite: RUSS 2311 with a grade of "C" or above.

**SCWK Mental Health Services (N) see also CMSW, DAAC and PSYT****SCWK 2301 Assessment and Case Management 2-4-3**

Exploration of procedures to identify and evaluate an individual's and/or family's strengths, weaknesses, problems, and needs in order to develop an effective plan of action. Topics include oral and written communications essential for screening, assessment, and case management to determine the need for prevention, intervention, and/or referral. Prerequisites: CMSW 1309, DAAC 1319, PSYT 1329, PSYT 2321, PSYT 2331.

**SOCI Sociology (T)****SOCI 1301 Introduction to Sociology 3-0-3**

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. TSI Skills: R.

**SOCI 1306 Social Problems 3-0-3**

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. TSI Skills: R.

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**SOCI 2301 Marriage and The Family 3-0-3**  
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. TSI Skills: R.

**SOCI 2319 Minority Studies 3-0-3**  
This course studies minority-majority group relations, addressing their historical, cultural, social, economic, and institutional development in the United States. Both sociological and social psychological levels of analysis will be employed to discuss issues including experiences of minority groups within the context of their cultural heritage and tradition, as well as that of the dominant culture. Core concepts to be examined include (but are not limited to) social inequality, dominance/subordination, prejudice, and discrimination. Particular minority groups discussed may include those based on poverty, race/ethnicity, gender, sexual orientation, age, disability, or religion.

## **SOCW Mental Health Services (N)**

**SOCW 2361 Introduction to Social Work 3-0-3**  
An overview of the history and development of social work as a profession. The course is designed to foster a philosophical, historical, and critical understanding of the social work profession, including social work values, ethics, and areas of practice utilized under a Generalist Intervention Model. (SOCW 2361 is included in the Social Work Field of Study.)

**SOCW 2362 Social Welfare: Legislature, Programs and Services 3-0-3**  
This course offers a historical and contemporary examination of legislature and resulting programs, policies, and services in the context of the social welfare system in the United States. Special attention is given to the political, economic, environmental, and social conditions that prompted the development of legislature to meet the needs of vulnerable populations. Societal responses to legislation are also considered. (SOCW 2362 is included in the Social Work Field of Study.)

**SOCW 2389 Academic Cooperative 3-0-3**  
A supervised experiential learning course designed to integrate program study with introductory exposure to the field of social work. In conjunction with individual study and/or seminars, the student will set specific goals and objectives in the study of social work and/or social institutions. The academic cooperative is not a social work skills-based practice experience, but instead, an observational volunteer experience. The course must include a minimum of 80 contact hours (48 hours in a social service setting). Prerequisite: SOCW 2361  
Recommended Prerequisite: SOCW 2362.

## **SPAN Spanish (T)**

**SPAN 1411 Beginning Spanish I 4-2-4**  
The study of basic Spanish grammar with the development of frequently used vocabulary. This course develops students' speaking, listening, reading and writing skills so they will be able to express their own ideas and interact with others. Some culture points are integrated to introduce students to the everyday lives of Spanish speakers in the twenty-one countries of the Spanish-speaking world.

**SPAN 1412 Beginning Spanish II 4-2-4**  
The study of basic Spanish grammar and vocabulary development continued from the SPAN 1411 curriculum. Prerequisite: SPAN 1411 with a "C" or above.

**SPAN 2311 Intermediate Spanish I 3-0-3**  
The study of grammar and vocabulary with emphasis on conversation and writing. This course will introduce students to Spanish culture and history as well as Latin American culture and history. Prerequisites: SPAN 1411 and SPAN 1412 with a "C" or above.

**SPAN 2312 Intermediate Spanish II 3-0-3**  
The continuation of SPAN 2311. Emphasis on complex grammar, composition and conversation about Spanish American topics. Prerequisite: SPAN 2311 with a "C" or above.

## **SPCH Speech (T)**

**SPCH 1315 Public Speaking 3-0-3**  
Course encompasses both theory and practice of communicating with others and includes research, composition, organization, and delivery of speeches for various purposes and occasions.

**SPCH 1318 Interpersonal Communication 3-0-3**  
Theory, examples, and participation in exercises to improve effective one-to-one and small-group communication.

**SPCH 1321 Business and Professional Communication 3-0-3**  
Theories and skills of speech communication as applied to business and professional situations. Includes participating in an interview, preparing a resume and cover letter, engaging in problem-solving discussions, and delivering public speeches.

**SPCH 2341 Oral Interpretation 3-0-3**  
Study and practice in the principles of oral reading of literature. Stresses analyzing good literature and recreating the logical and emotional content for an audience. Also includes group oral interpretation. TSI Skills: R, W.

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## TECA Child Development (T)

**TECA 1303 Families, School, & Community 3-1-3**  
A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. The course includes a minimum of 16 hours of field experiences.

**TECA 1311 Educating Young Children 3-1-3**  
An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations; and the course includes a minimum of 16 hours of field experiences.

**TECA 1318 Wellness of the Young Child 3-1-3**  
A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness, and safety practices. Focuses on local and national standards and legal implications of relevant policies and regulations. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth to age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 16 hours of field experiences.

**TECA 1354 Child Growth & Development 3-0-3**  
This course is a study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence.

## TECM Industrial Mathematics (N)

**TECM 1301 Industrial Mathematics 3-0-3**  
This course will cover math skills applicable to industrial occupations, including fraction and decimal manipulation, measurement, percentage, and problem solving techniques for equations and ratio/proportion applications.

## TRVM Hospitality Management (N) see also CHEF, HAMG, IFWA, PSTR and RSTO

**TRVM 2301 Introduction to Convention/Meeting Management 3-0-3**  
Overview of the meetings and convention industry and the various aspects and skills involved in planning and managing meetings, conventions and expositions. Emphasis on types of meetings, meeting markets, industry suppliers, budget and program planning, site selection and contract negotiations, registration and housing, food and beverage requirements, function and meeting room setup, and audiovisual requirements.

## VNSG Nursing - LVN (N)

**VNSG 1126 Gerontology 1-0-1**  
Overview of the physical, psychosocial, and cultural aspects of the aging process. Addresses disease processes of aging. Exploration of perceptions toward care of the older adult. Prerequisites: BIOL 2401, HPRS 2300. Co-requisites: VNSG 1222, 1323.

**VNSG 1160 Clinical - Practical Nurse I 0-6-1**  
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. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1323, 1222, 1126. Co-requisites: VNSG 1227, 2331.

**VNSG 1219 Leadership and Prof. Development 2-0-2**  
Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Co-requisites: VNSG 1301, 1429, 1560.

**VNSG 1222 Vocational Nursing Concepts 2-0-2**  
Introduction to the nursing profession and its responsibilities. Includes legal and ethical issues in nursing practice. Concepts related to the physical, emotional, and psychosocial self-care of the learner/professional. Prerequisites: BIOL 2401, HPRS 2300. Co-requisites: VNSG 1126, 1323.

**VNSG 1227 Essentials of Medication Administration 2-1-2**  
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. Prerequisites: BIOL 2401, HPRS 2300. Co-requisites: VNSG 2331.



<b>VNSG 1230</b>	<b>Maternal-Neonatal Nursing</b>	<b>2-0-2</b>
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. Fall Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160, 1301, 1219, 1429, 1560. Fall Corequisites: VNSG 1432, 1234, 2360. Spring Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Spring Co-requisites: VNSG 1429, 1234, 1360.		
<b>VNSG 1234</b>	<b>Pediatrics</b>	<b>2-1-2</b>
Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process. Fall Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160, 1301, 1219, 1429, 1560. Fall Co-requisites: VNSG 1432, 1230, 2360. Spring Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Spring Co-requisites: VNSG 1429, 1230, 1360.		
<b>VNSG 1301</b>	<b>Mental Health &amp; Mental Illness</b>	<b>3-0-3</b>
Personality development, human needs, common mental mechanisms, and factors influencing mental health and mental illness. Includes common mental disorders and related therapy. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Co-requisites: VNSG 1301, 1219, 1560.		
<b>VNSG 1323</b>	<b>Basic Nursing Skills</b>	<b>1-7-3</b>
Mastery of basic nursing skills and competencies for a variety of health care settings using the nursing process as the foundation for all nursing interventions. Prerequisites: BIOL 2401, HPRS 2300. Co-requisite: VNSG 1126, 1222.		
<b>VNSG 1360</b>	<b>Clinical - Practical Nurse II</b>	<b>0-17-3</b>
An intermediate/advanced 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. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Co-requisites: VNSG 1230, 1234, 1429.		
<b>VNSG 1429</b>	<b>Medical - Surgical Nursing I</b>	<b>3-2-4</b>
Application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings. Fall Adm. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Fall Adm. Co-requisites: VNSG 1301, 1219, 1560. Spring Adm. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Spring Adm. Co-requisites: VNSG 1230, 1234, 1429, 1360.		
<b>VNSG 1432</b>	<b>Medical - Surgical Nursing II</b>	<b>3-2-4</b>
Continuation of Medical-Surgical Nursing I with application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings. Fall Adm. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160, 1301, 1219, 1560, 1429. Fall Adm. Co-requisites: VNSG 1230, 1234, 2360. Spring Adm. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Spring Adm. Co-requisites: VNSG 1230, 1234, 1429, 1360.		
<b>VNSG 1560</b>	<b>Clinical - Practical Nurse II</b>	<b>0-25-5</b>
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. Fall Adm. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Fall Adm. Co-requisites: VNSG 1301, 1219, 1429.		
<b>VNSG 2331</b>	<b>Advanced Nursing Skills</b>	<b>1-6-3</b>
Application of advanced level nursing skills and competencies in a variety of health care settings utilizing the nursing process as a problem-solving tool. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1323. Co-requisites: VNSG 1227, 1160.		
<b>VNSG 2360</b>	<b>Clinical – Practical Nurse III</b>	<b>0-17-3</b>
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. Capstone course. Fall Adm. Prerequisites: BIOL 2401, HPRS, 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160, 1301, 1219, 1429, 1560. Fall Adm. Co-requisite: VNSG 1432, 1230, 1234.		
<b>VNSG 2560</b>	<b>Clinical – Practical Nurse III</b>	<b>0-25-5</b>
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. Capstone course. Spring Adm. Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160, 1230, 1234, 1429, 1360. Spring Adm. Co-requisite: VNSG 1301, 1219, 1432		

## **WDWK Construction Technology (N)**

<b>WDWK 1413</b>	<b>Cabinet Making I</b>	<b>2-5-4</b>
Design and construction of base cabinets and wall cabinets for kitchens and bathrooms. Emphasis on the safe use of portable and stationary power tools. Prerequisite: CRPT 1429 .		
<b>WDWK 2351</b>	<b>Cabinet Making II</b>	<b>2-4-3</b>
Advanced skills in machine woodworking and hand craftsmanship. Emphasizes advanced design and door and drawer construction, laminate installation. Prerequisite: WDWK 1413.		

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## WLDG Welding (N)

<b>WLDG 1312</b>	<b>Introduction to Flux Cored Arc Welding</b>	<b>2-4-3</b>
An overview of terminology, safety procedures, and equipment set-up. Practice in performing various joints using Flux Cored Arc Welding (FCAW) equipment.		
<b>WLDG 1313</b>	<b>Introduction to Blueprint Reading for Welders</b>	<b>2-4-3</b>
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. Prerequisite: WLDG 1323.		
<b>WLDG 1317</b>	<b>Introduction to Layout and Fabrication</b>	<b>2-4-3</b>
A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction. Prerequisite: WLDG 1313, WLDG 1323 and WLDG 1425.		
<b>WLDG 1323</b>	<b>Welding Safety, Tools, and Equipment</b>	<b>2-4-3</b>
An introduction to welding careers, equipment and safety practices, including OSHA standards for industry.		
<b>WLDG 1425</b>	<b>Introduction to Oxy-Fuel Welding and Cutting</b>	<b>3-3-4</b>
An introduction to oxy-fuel welding and cutting, safety, set up and maintenance of oxy-fuel welding, and cutting equipment and supplies. Prerequisite: WLDG 1323.		
<b>WLDG 1428</b>	<b>Introduction to Shielded Metal Arc Welding (SMAW)</b>	<b>3-3-4</b>
An introduction to the shielded metal arc welding process. Emphasis is placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions. Prerequisites: WLDG 1323 and WLDG 1425.		
<b>WLDG 1430</b>	<b>Introduction to Gas Metal Arc (GMAW) Welding</b>	<b>3-3-4</b>
Principles of gas metal arc (GMAW) welding, setup and use of GMAW equipment, and safe use of tools and equipment. Instruction in various joint designs. Prerequisites: WLDG 1323.		
<b>WLDG 1434</b>	<b>Introduction to Gas Tungsten Arc (GTAW) Welding</b>	<b>3-3-4</b>
Principles of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs. Prerequisites: WLDG 1323.		
<b>WLDG 1435</b>	<b>Introduction to Pipe Welding</b>	<b>3-3-4</b>
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 using various electrodes. Prerequisite: WLDG 1457.		
<b>WLDG 1457</b>	<b>Intermediate Shielded Metal Arc Welding (SMAW)</b>	<b>3-3-4</b>
A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions. Prerequisite: WLDG 1428.		
<b>WLDG 2406</b>	<b>Intermediate Pipe Welding</b>	<b>3-3-4</b>
A comprehensive course of pipe using the shielded metal arc welding (SMAW) process. Welding will be done in various positions. Topics covered include electrode selection, equipment setup and safe shop practices. Prerequisite: WLDG 1435.		
<b>WLDG 2435</b>	<b>Advanced Layout and Fabrication</b>	<b>3-3-4</b>
An advanced course in layout and fabrication. Includes production and fabrication of layout, tools, and processes. Emphasis on application of fabrication and layout skills. Prerequisite: WLDG 1317.		
<b>WLDG 2443</b>	<b>Advanced Shielded Metal Arc Welding (SMAW)</b>	<b>2-6-4</b>
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. Prerequisites: WLDG 1323 and WLDG 1457.		
<b>WLDG 2447</b>	<b>Advanced Gas Metal Arc Welding (GMAW)</b>	<b>3-3-4</b>
Advanced topics in gas metal arc welding (GMAW). Includes welding in various positions. Prerequisite: WLDG 1430.		
<b>WLDG 2451</b>	<b>Advanced Gas Tungsten Welding (GTAW)</b>	<b>3-3-4</b>
Advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite: WLDG 1434.		
<b>WLDG 2453</b>	<b>Advanced Pipe Welding</b>	<b>2-7-4</b>
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.		
<b>WLDG 2488</b>	<b>Internship - Welder/Welding Technology</b>	<b>0-19-4</b>
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisite: Department approval required.		