
ABDR Autobody Repair

- 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

- 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

- 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.

AGAH Agriculture 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 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 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 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

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.

AGRI 1407 Agronomy 3-3-4
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.

AGRI 1415 Horticulture 3-3-4
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.

AGRI 1419 Introductory Animal Science 3-3-4
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.

AGRI 2301 Agriculture Power Units 2-2-3
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.

AGRI 2317 Introduction to Agriculture Economics 3-0-3
Fundamental economic principles and their application in the agriculture industry.

AGRI 2330 Wildlife Conservation and Management 2-2-3
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 see also AVIM

AIRP 1255 Intermediate Flight 1-3-2
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: 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.

AIRP 1305 Aircraft Science 3-0-3
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.

AIRP 1307 Aviation Meteorology 3-0-3
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.

AIRP 1315 Private Flight 2-3-3
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.

AIRP 1341 Advanced Air Navigation 3-0-3
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 1417.

AIRP 1343 Aerodynamics 3-0-3
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.

AIRP 1417 Private Pilot Ground School 3-3-4
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.

AIRP 1451 Instrument Ground School 3-3-4
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 1341.

AIRP 2239	Commercial Flight	1-3-2
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.		
AIRP 2243	Flight Instructor -Multiengine Airplane	1-2-2
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.		
AIRP 2250	Instrument Flight	1-3-2
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.		
AIRP 2251	Multiengine Flight	2-2-2
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.		
AIRP 2336	Certified Flight Instructor - Airplane	2-3-3
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.		
AIRP 2337	Commercial Ground School	3-0-3
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.		
AIRP 2342	Flight Instructor - Instrument Airplane	2-2-3
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.		
AIRP 2355	Propulsion Systems	3-0-3
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

ANTH 2301	Physical Anthropology	3-0-3
The study of human origins and bio-cultural adaptations. Topics may include primatology, genetics, human variation, forensics, health, and ethics in the discipline.		
ANTH 2302	Introduction to Archeology	3-0-3
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.		
ANTH 2346	General Anthropology	3-0-3
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.		
ANTH 2351	Cultural Anthropology	3-0-3
The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline.		

ARAB Arabic

ARAB 1411	Beginning Arabic I	4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.		
ARAB 1412	Beginning Arabic II	4-2-4
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: ARAB 1411 with a grade of "C" or above.		
ARAB 2311	Intermediate Arabic I	3-0-3
This course includes grammar review, composition, and reading with conversation based on material read. Prerequisites: ARAB 1411 and ARAB 1412 with a grade of "C" or above.		

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

ARCE Computer Aided Drafting and Design see also DFTG

ARCE 1452 Structural Drafting 3-3-4
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 see also GRPH

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

ARTC 1313 Digital Publishing I 2-4-3
The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout. Prerequisite: GRPH 1305.

ARTC 1327 Typography 2-4-3
A study of letterforms and typographic concepts as elements of graphic communication. Emphasis on developing a current, practical typographic knowledge based on industry standards.

ARTC 2305 Digital Imaging II 2-4-3
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.

ARTC 2313 Digital Publishing II 2-4-3
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: GRPH 1305.

ARTC 2333 Publication Design 2-4-3
Development of skills and advanced knowledge of publishing software, with emphasis on the maintenance of visual continuity in documents for publication. Prerequisite: ARTC 2348.

ARTC 2348 Digital Publishing III 2-4-3
A project based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques. Prerequisite: ARTC 2313.

ARTC 2435 Portfolio Development for Graphic Design 3-3-4
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.

ARTC 2488 Internship – Commercial and Advertising Art 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: Department approval required.

ARTS Arts

ARTS 1303 Art History I 3-0-3
A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century. Prerequisite: None

ARTS 1304 Art History II 3-0-3
A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day. Prerequisite: None

ARTS 1311 Design I 2-4-3
An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design. Prerequisite: None

ARTS 1312 Design II 2-4-3
An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design. Prerequisite: None

ARTS 1316 Drawing I 2-4-3
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

ARTS 1317	Drawing II	2-4-3
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.		
ARTS 2311	Design III	2-4-3
This course is designed primarily for the Commercial Art major, but can apply to Fine Arts as well. The student will learn to use standard computer-aided techniques in creating and elaborating upon designs. Focus will be on the use of Adobe Photoshop and Illustrator. Prerequisite: Computer literacy and ARTS 1311, or Instructor Approval.		
ARTS 2313	Design Communications I	2-4-3
This course is a study of current concerns and practices in the commercial arts, including contemporary media and techniques. Emphasis is on the introduction of Adobe Illustrator. Students must be computer literate. Prerequisite: None		
ARTS 2314	Design Communications II	2-4-3
This course is a study of current concerns and practices in the commercial arts, including contemporary media and techniques. Emphasis is on the use of Adobe Photoshop for the restoration and repair of images as well as correction and enhancement of digital photographs. Students must be computer literate. Prerequisite: None		
ARTS 2316	Painting I	2-4-3
This course studies the techniques and materials used in oil-based and emulsion based painting. Drawing skills are recommended. Prerequisite: None.		
ARTS 2317	Painting II	2-4-3
This course is a continuation of techniques explored in ARTS 2316 with emphasis on individual expression. Prerequisite: ARTS 2316.		
ARTS 2323	Life Drawing I	2-4-3
This is a life drawing course which emphasizes structure and action of the human figure. Prerequisite: None.		
ARTS 2341	Art Metals I	2-4-3
An introduction to jewelry-making and metalworking techniques. Basic fabrication techniques are stressed including bezel settings. Some lost wax casting is included. Prerequisite: None		
ARTS 2346	Ceramics I	2-4-3
This course is an introduction to making pottery by hand-built methods. Glazing and decoration techniques are covered. Prerequisite: None		
ARTS 2347	Ceramics II	2-4-3
This course is a continuation of pottery-making techniques. Prerequisite: ARTS 2346.		
ARTS 2356	Photography I	2-4-3
An introduction to the basics of photography including 35mm camera operations, techniques, knowledge of traditional black and white darkroom chemistry, and presentation skills. Emphasis will also be placed on design, history, and contemporary trends as a means of developing an understanding of photographic aesthetics. Prerequisites: None.		
ARTS 2357	Photography II	2-4-3
Extends the student's knowledge of technique including digital photography and guides them in developing a personal outlook towards a specific application of the photographic process. Prerequisite: None.		
ARTS 2366	Watercolor I	2-4-3
This course covers various techniques of painting in watercolor. It stresses color and composition in application of the medium. Drawing skills are recommended. Prerequisite: None.		
ARTS 2389	Academic Cooperative	2-4-3
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

AUMT 1319	Automotive Engine Repair	2-4-3
Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, and disassembly, repair, and reassembly of the engine. Prerequisites: AUMT 2305.		
AUMT 1405	Introduction to Automotive Technology	3-3-4
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.		
AUMT 1407	Automotive Electrical Systems	2-7-4
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.		

AUMT 1410	Automotive Brake Systems	2-6-4
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.		
AUMT 1416	Automotive Suspension and Steering Systems	2-6-4
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.		
AUMT 1445	Automotive Climate Control Systems	2-6-4
Diagnosis and repair of manual/electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. Prerequisites: AUMT 1407.		
AUMT 1472	Automotive Computer Systems	2-7-4
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.		
AUMT 2305	Automotive Engine Theory	2-2-3
Fundamentals of engine operation and diagnosis including lubrication and cooling systems. Emphasis on identification of components, measurements, inspections, and repair methods. Prerequisite: AUMT 1405.		
AUMT 2337	Automotive Electronics	2-4-3
Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. Prerequisites: AUMT 1407.		
AUMT 2413	Automotive Drive Train and Axles	2-6-4
A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on the diagnosis and repair. Prerequisite: AUMT 1405.		
AUMT 2417	Automotive Engine Performance Analysis I	2-7-4
Theory, operation, diagnosis of drivability concerns, and repair ignition and fuel delivery systems. Use of current engine performance diagnostic equipment. Prerequisites: AUMT 2337.		
AUMT 2425	Automotive Automatic Transmission and Transaxle	2-6-4
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.		
AUMT 2434	Automotive Engine Performance Analysis II	2-7-4
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.		
AUMT 2488	Internship - Automobile/Automotive 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.		

AVIM Aviation Science see also AIRP

AVIM 2331	Airline Management	3-0-3
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 see also CETT, COSC, CPMT, ELMT, IMED, INMT, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY

BCIS 1305	Business Computer Applications	2-4-3
Students will study computer terminology, hardware, and software related to the business environment. The focus of this course is on business productivity software applications and professional behavior in computing, including word processing (as needed), spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet. Prerequisites: None		

BIOL Biology

BIOL 1322	Nutrition and Diet Therapy I	3-0-3
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.		

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- BIOL 1406 Biology for Science Majors I** 3-3-4
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.
- BIOL 1407 Biology for Science Majors II** 3-3-4
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.
- BIOL 1408 Biology for Non-Science Majors I** 3-3-4
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.
- BIOL 1409 Biology for Non-Science Majors II** 3-3-4
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.
- BIOL 1411 General Botany** 3-3-4
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.
- 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.
- 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. Completion of BIOL 1406 is strongly recommended.
- 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.
- 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 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 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.

BUSG Business Administration and Management 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, planning, heading, organizing, staffing and controlling Enactus 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 Enactus 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

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.

CBFM Maintenance Technology 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

CDEC 1164 Practicum (or Field Experience) - Child Development 0-7-1
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires 112 hours at an approved Child Care facility. Prerequisite CDEC 1313 and CDEC 1319.

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.

CDEC 1311 Educating Young Children 3-1-3
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.

CDEC 1313 Curriculum Resources for Early Childhood Programs 3-0-3
A study of the fundamentals of developmentally appropriate curriculum design and implementation in early care and education programs for children birth through age 8.

CDEC 1317 Child Development Associate Training I 2-2-3
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.

CDEC 1318 Wellness of the Young Child 3-1-3
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.

CDEC 1319 Child Guidance 3-0-3
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.

CDEC 1321 The Infant and Toddler 3-0-3
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.

CDEC 1354 Child Growth & Development 3-0-3
Physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence.

CDEC 1356 Emergent Literacy for Early Childhood 3-0-3
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.

CDEC 1358 Creative Arts for Early Childhood 3-0-3
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.

CDEC 1359 Children with Special Needs 3-0-3
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.

CDEC 2164	Practicum (or Field Experience) - Child Development	0-7-1
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires 112 hours at an approved Child Care facility. Prerequisite CDEC 1164.		
CDEC 2288	Internship Child Care Provider/Assistant	0-12-2
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. 192 hours required at student's qualifying place of employment; or an approved site, must work directly with young children, ages 0-8.		
CDEC 2307	Math & Science for Early Childhood	3-0-3
An exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play.		
CDEC 2322	Child Development Associate Training II	2-2-3
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.		
CDEC 2324	Child Development Associate Training III	2-2-3
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.		
CDEC 2326	Administration of Programs for Children I	3-0-3
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.		
CDEC 2328	Administration of Programs for Children II	3-0-3
An in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personnel management, team building, leadership, conflict resolution, stress management, advocacy, professionalism, fiscal analysis, and planning parent education/partnerships. Prerequisite: Six hours of Child Development coursework.		
CETT Computer Information Technology and Systems see also BCIS, COSC, CPMT, ELMT, IMED, INMT, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY		
CETT 1303	DC Circuits	2-4-3
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		
CETT 1305	AC Circuits	2-4-3
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.		
CETT 1321	Electronic Fabrication	2-4-3
A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding, and various soldering techniques. Prerequisite: None		
CETT 1325	Digital Fundamentals	2-4-3
An entry level course in digital electronics covering numbering systems, logic gates, Boolean algebra, and combinational logic. Prerequisite: None		
CETT 1331	Programming for Discrete Electronic Devices	2-4-3
Introduction to a high level programming language. Includes structured programming and problem solving applicable to discrete electronic devices. Prerequisite: CETT 1325.		
CETT 1429	Solid State Devices	3-3-4
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.		
CETT 1441	Solid State Circuits	3-3-4
A study of various semiconductor devices incorporated in circuits and their applications. Emphasis on circuit construction, measurements, and analysis. Prerequisite: CETT 1429.		
CETT 1449	Digital Systems	3-3-4
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 include devices developed as general purpose as well as those designed for specified job-type applications. Prerequisite: CETT 1325		
CETT 2335	Advanced Microprocessors	2-4-3
An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing. Prerequisite: CETT 1331		

CETT 2489 Internship-Computer Engineering 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 the employer. Prerequisite: Department approval required.

CHEF Hospitality Management see also HAMG, IFWA, PSTR, RSTO and TRVM

CHEF 1301 Basic Food Preparation 1-5-3
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.

CHEF 1302 Principles of Healthy Cuisine 1-5-3
Introduction to the principles of planning, preparation, and presentation of nutritionally balanced meals. Adaptation of basic cooking techniques to lower the fat and caloric content. Alternative methods and ingredients will be used to achieve a healthier cooking style. Prerequisite: CHEF 1301.

CHEF 1305 Sanitation and Safety 3-0-3
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.

CHEF 1310 Garde Manger 2-4-3
A study of cold foods and garnishes. Emphasis on design, techniques, and display of fine foods. Prerequisite: CHEF 1301.

CHEF 1341 American Regional Cuisine 2-4-3
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.

CHEF 1345 International Cuisine 2-4-3
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.

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

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.

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.

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.

CHIN Chinese

CHIN 1411 Beginning Chinese I 4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

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

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

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

CHLT Community Health

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.

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 2267 Practicum - Community Health Services 0-14-3
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

CJCR Criminal Justice 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 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	1329	Basic Peace Officer V	2-3-3
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	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	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.			
CJLE	1518	Basic Peace Officer III	3-7-5
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.			
CJLE	1524	Basic Peace Officer IV	3-8-5
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.			

CJLE 2345 Vice and Narcotics Investigation 3-0-3
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.

CJLE 2486 Internship-Criminal Justice/Police Science 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.

CJSA Criminal Justice see also CJCR and CJLE

CJSA 1170 Alcohol Awareness/Intervention 1-0-1
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.

CJSA 1171 Police Brutality 1-0-1
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.

CJSA 1172 Topics for Parents 1-0-1
The course will focus on areas of concern for today's parents; on-line predators, teenage alcohol and drug abuse and teenage domestic violence. This course will provide students with knowledge concerning these areas that will provide additional avenues of communication.

CJSA 1173 Drug Recognition for Law Enforcement 1-0-1
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".

CJSA 1174 Terrorism as a Strategy 1-0-1
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.

CJSA 1175 Investigation of Sexual Abuse 1-0-1
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.

CJSA 1176 Introduction to Gangs and Gang Infiltration of the Military 1-0-1
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.

CJSA 1177 International Criminal Justice 1-0-1
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.

CJSA 1178 Criminal Deviance 1-0-1
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.

CJSA 1192 Special Topics in Criminal Justice/Law Enforcement Administration 1-0-1
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.

CJSA 1302 Private Security Officer Training 3-0-3
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.

CJSA 1308 Criminalistics I 3-0-3
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.

CJSA	1312	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 crime prevention.			
CJSA	1313	Court Systems and Practices	3-0-3
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.			
CJSA	1317	Juvenile Justice System	3-0-3
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.			
CJSA	1318	Court Management	3-0-3
Exploration of operational issues in the administration of American courts. Topics include responsibilities of court personnel, records management, and organizational management topics.			
CJSA	1322	Introduction to Criminal Justice	3-0-3
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.			
CJSA	1327	Fundamentals of Criminal Law	3-0-3
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.			
CJSA	1342	Criminal Investigation	3-0-3
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.			
CJSA	1348	Ethics in Criminal Justice	3-0-3
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.			
CJSA	1351	Use of Force	3-0-3
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.			
CJSA	1359	Police Systems and Practices	3-0-3
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.			
CJSA	1393	Special Topics in Criminal Justice Studies	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.			
CJSA	2300	Legal Aspects of Law Enforcement	3-0-3
Exploration of police authority. Topics include responsibilities and constitutional constraints, law of arrest, search and seizure, and police liability.			
CJSA	2302	Police Management, Supervision, and Related Topics	3-0-3
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.			
CJSA	2331	Child Abuse, Prevention and Investigation	3-0-3
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.			
CJSA	2488	Internship-Criminal Justice Safety Studies	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.			

CMSW Mental Health Services see also DAAC, PSYT and SCWK

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

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 Radio/Television Broadcasting Communications

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.

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 Introduction to Cinema 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 see also BCIS, CETT, CPMT, ELMT, IMED, INMT, ITCC, ITNW, ITSC, ITSE, ITSW, ITSU

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.

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 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.

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.

CPMT Computer Information Technology and Systems see also BCIS, CETT, COSC, ELMT, IMED, INMT, ITCC, ITNW, ITSC, ITSE, ITSW, ITSU

CPMT 1345 Computer Systems Maintenance 2-4-3

A study of the components within a computer system. Development of testing and troubleshooting skills. Prerequisite: ITSC 1301 or COSC 1301 or concurrent enrollment.

CRIJ Criminal Justice

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.

CRIJ 1310 Fundamentals of Criminal Law 3-0-3

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.

CRIJ 1313	Juvenile Justice System	3-0-3
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.		
CRIJ 2301	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.		
CRIJ 2313	Correctional Systems and Practices	3-0-3
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.		
CRIJ 2314	Criminal Investigation	3-0-3
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.		
CRIJ 2323	Legal Aspects of Law Enforcement	3-0-3
Exploration of police authority. Topics include responsibilities and constitutional restraints, law of arrest, search and seizure, and police liability.		
CRIJ 2328	Police Systems and Practices	3-0-3
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.		

CRPT Maintenance Technology see also CBFM, CNBT, ELPT, MBST, PFPB and WDWK

CRPT 1411	Roof Systems	3-4-4
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.		
CRPT 1415	Wall Systems	3-4-4
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.		
CRPT 1423	Floor Systems	3-3-4
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.		
CRPT 1429	Introduction to Carpentry	3-3-4
An introduction to the carpentry trade including safety, tools, equipment, terminology, and methods.		

DAAC Mental Health Services see also CMSW, PSYT and SCWK

DAAC 1167	Practicum (or Field Experience) – Substance Abuse/Addiction Counseling	0-10-1
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: See Mental Health Services admission requirement.		
DAAC 1304	Pharmacology of Addiction	2-4-3
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.		
DAAC 1309	Assessment Skill of Alcohol and Other Drug Addictions	2-4-3
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.		
DAAC 1311	Counseling Theories	2-4-3
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.		
DAAC 1319	Introduction to Alcohol and Other Drug Addictions	2-4-3
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.		
DAAC 2301	Therapeutic Communities in a Criminal Justice Setting	2-2-3
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.		

DAAC 2306	Substance Abuse Prevention I	2-2-3
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.		
DAAC 2307	Addicted Family Intervention	2-4-3
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 additive 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.		
DAAC 2341	Counseling Alcohol and Other Drug Addictions	2-4-3
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.		
DAAC 2353	Substance Abuse Prevention II	2-2-3
In-depth exploration of research, evaluation methods and best practices in prevention program design.		
DAAC 2354	Dynamics of Group Counseling	2-4-3
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.		
DAAC 2367	Practicum (or Field Experience) – Substance Abuse/Addiction Counseling	0-22-3
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

DEMR 1306	Diesel Engine I	2-4-3
An introduction to the basic principles of diesel engines and systems. Prerequisite: DEMR 1401.		
DEMR 1321	Power Train I	1-8-3
Fundamentals, repair, and theory of power trains including clutches, transmissions, drive shafts, and differentials. Emphasis on inspection and repair. Prerequisites: DEMR 1416.		
DEMR 1330	Steering and Suspension I	2-4-3
A study of design, function, maintenance, and repair of steering and suspension systems. Emphasis on troubleshooting and repair of failed components. Prerequisite: DEMR 1401.		
DEMR 1401	Shop Safety and Procedures	3-3-4
A study of shop safety, rules, basic shop tools, and test equipment.		
DEMR 1405	Basic Electrical Systems	2-7-4
Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries. Prerequisites: DEMR 1306.		
DEMR 1410	Diesel Engine Testing and Repair I	2-6-4
An introduction to testing and repairing diesel engines including related systems specialized tools. Prerequisites: DEMR 1405.		
DEMR 1416	Basic Hydraulics	2-7-4
Fundamentals of hydraulics including components and related systems. Prerequisite: DEMR 1401.		
DEMR 1417	Basic Brake Systems	2-6-4
Basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting. Prerequisite: DEMR 1405.		
DEMR 1423	Heating, Ventilation and Air Conditioning, Troubleshooting and Repair	2-7-4
Introduction to heating, ventilation, and air conditioning theory, testing, and repair. Emphasis on refrigerant reclamation, safety procedures, specialized tools, and repairs. Prerequisite: DEMR 1405.		
DEMR 1447	Power Train II	3-3-4
Continuation of fundamentals and theory of power train systems. Emphasis on disassembly, inspection, and repair of power train components. Prerequisites: DEMR 1321.		
DEMR 1449	Diesel Engine II	2-7-4
An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines. Prerequisites: DEMR 2434.		

DEM	2412	Diesel Engine Testing and Repair II	2-7-4
Coverage of testing and repairing diesel engines including related systems and specialized tools. Prerequisites: DEMR 1410.			
DEM	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.			
DEM	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 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	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: Second semester Sophomore standing in the Drafting program.			
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

DRAM	1310	Introduction to Theater	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			
DRAM	1330	Stagecraft I	2-4-3
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			

DRAM 1342	Introduction to Costume	2-4-3
Principles and techniques of costume design and construction for theatrical productions.		
DRAM 1351	Acting I	2-4-3
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		
DRAM 1352	Acting II	2-4-3
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.		
DRAM 2336	Voice for the Theater	3-0-3
Application of the performer's use of the voice as a creative instrument of effective communication. Encourages an awareness of the need for vocal proficiency and employs techniques designed to improve the performer's speaking abilities.		
DRAM 2361	History of Theatre I	3-0-3
Study of the history of theatre from primitive times through the Renaissance.		
DRAM 2362	History of Theatre II	3-0-3
Study of the history of the theatre from the Renaissance through today.		
DRAM 2366	Introduction to Cinema	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. Prerequisite: None		
DRAM 2389	Academic Cooperative	2-4-3
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.

DSED 0300	College Study Skills	3-0-3
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.		
DSMA 0303	Intermediate Algebra	4-0-3
Developmental Mathematics IV requires an understanding of the topics taught in DSMA 0401. This course teaches such topics as rational expressions, rational exponents and radicals, exponential and logarithmic equations, complex numbers, nonlinear inequalities, systems of nonlinear equations, quadratic equations, and functions and their graphs. This course will assist the student in developing the critical-thinking and problem-solving skills necessary for college-level mathematics courses. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.		
DSMA 0304	Fundamentals of Mathematics II	3-0-3
Fundamentals of Mathematics II is designed to help the student make the transition from arithmetic to algebra. This is accomplished through in-depth coverage of the fundamentals of whole numbers, fractions, decimals, percents, sign numbers, order of operations, prime factorization, greatest common factor, variable expressions, introduction to graphs and linear equations. (Offered at locations that do not have a lab facility) Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.		
DSMA 0306	Introductory Algebra	3-0-3
Introductory Algebra is designed to provide instruction and practice in performing fundamental algebraic operations involving real numbers, linear equations and inequalities, system of linear equations, polynomials, factoring, graphing, and selected application problems. 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)		
DSMA 0307	Intermediate Algebra	3-0-3
Intermediate Algebra requires an understanding of the topics taught in DSMA 0306. This course teaches such topics as rational expressions, rational exponents and radicals, exponential and logarithmic equations, complex numbers, nonlinear inequalities, systems of nonlinear equations, quadratic equations, and functions and their graphs. This course will assist the student in developing the critical-thinking and problem-solving skills necessary for college-level mathematics courses. 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)		

- DSMA 0400 Developmental Mathematics I** 5-1-4
 Developmental Mathematics I is designed to help the student make the transition from arithmetic to algebra. This is accomplished through in-depth coverage of the fundamentals of whole numbers, fractions, decimals, percents, sign numbers, order of operations, prime factorization, greatest common factor, variable expressions, introduction to graphs and linear equations. A computer lab where students practice math skills is required. 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.
- DSMA 0401 Developmental Mathematics II** 5-1-4
 Developmental Mathematics II is designed to provide instruction and practice in performing fundamental algebraic operations involving real numbers, linear equations and inequalities, system of linear equations, polynomials, factoring, graphing, and selected application problems. A computer lab where students practice math skills is required. 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.
- DSMA 0491 NCBO Foundations of Algebra** 5-1-4
 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.
- DSMA 0493 NCBO Intermediate Algebra** 3-1-4
 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.
- DSMA 0499 NCBO Developmental Mathematics** 5-1-4
 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.
- DSRE 0300 Developmental Reading I** 4-0-3
 Developmental Reading I (DSRE 0300) 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. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.
- DSRE 0302 Fundamentals of Reading I** 3-0-3
 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. **(Offered at locations that do not have a lab facility)** Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.
- 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)**
- DSWR 0301 Developmental Writing I** 3-1-3
 Developmental Writing I is a fundamental English course designed to aid the student in acquiring the basic skills needed for college-level writing. Primary emphasis is placed on sentence and paragraph development, with additional attention given to problems in grammar and usage as these problems occur in the paragraphs. Prerequisite: Appropriate TSI score or TSI exemption or completion of the appropriate level of the Developmental studies course.
- DIRW 0305 Princ. of Academic Literacy (PAL)** 4-0-3
 This is a Non-Course-Based-Option (NCBO) course, designed specifically for students needing an intensive intervention in reading and/or writing. Topics include reading comprehension vocabulary development, grammar, punctuation, and sentence structure. Prerequisite: Appropriate TSI score.
- DIRW 0413 Developmental Integrated Reading and Writing** 4-0-4
 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.

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.
- DSLA 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.
- DSLA 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
- DSLA 0315 Grammar I (ESOL) 4-0-3**
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.
- DSLA 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.
- DSLA 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.
- DSLA 0322 Academic Listening and Speaking II (ESOL) 4-1-3**
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.
- DSLA 0323 Academic Listening and Speaking I 4-1-3**
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.
- DSLA 0330 Reading and Vocabulary III (ESOL) 4-1-3**
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.
- DSLA 0332 Academic Listening and Speaking III (ESOL) 4-1-3**
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.
- DSLA 0340 Accent Reduction (ESOL) 3-0-3**
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

- ECON 2301 Principles of Macroeconomics 3-0-3**
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.
- ECON 2302 Principles of Microeconomics 3-0-3**
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.

EDUC Education see also TECA

EDUC 1301 Introduction to the Teaching Profession 3-1-3
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.

EDUC 2301 Introduction to Special Populations 3-1-3
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.

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

ELMT 2435 Certified Electronics Technician Training 3-3-4
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.

ELPT Maintenance Technology see also CBFM, CNBT, CRPT, MBST, PFPB and WDWK

ELPT 1411 Basic Electrical Theory 3-3-4
Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

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. Prerequisite: ELPT 1411.

EMAP Public Administration/Homeland Security 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 Emergency Medical Technology

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 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 1291	Special Topics in Emergency Medical Technology/Technician	2-0-2
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.		
EMSP 1305	Emergency Care Attendant	2-3-3
Preparation for certification as an Emergency Care Attendant (ECA)/Emergency Medical Responder (EMR).		
EMSP 1338	Introduction to Advanced Practice	3-0-3
Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics. Upon successful completion of this course, EMSP 1356, EMSP 1355, EMSP 2206 and EMSP 2262, 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. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). See also admission requirements.		
EMSP 1355	Trauma Management	2-3-3
Knowledge and skills in the assessment and management of patients with traumatic injuries. Upon successful completion of this course, EMSP 1356, EMSP 1338, EMSP 2206 and EMSP 2262, 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. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). See also admission requirements.		
EMSP 1356	Patient Assessment and Airway Management	2-3-3
Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation. Upon successful completion of this course, EMSP 1355, EMSP 1338, EMSP 2206 and EMSP 2262, 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. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). See also admission requirements.		
EMSP 1391	Special Topics in Emergency Medical Technology/Technician	2-4-3
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.		
EMSP 1401	Emergency Medical Technician-Basic	2-6-4
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. See also admission requirements.		
EMSP 2135	Advanced Cardiac Life Support	1-0-1
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.		
EMSP 2143	Assessment Based Management	0-3-1
A summative experience covering comprehensive, assessment-based patient care management for the paramedic level. Upon successful completion of this course, EMSP 2330, EMSP 2305, and EMSP 2164, 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 2444, EMSP 2434 and EMSP 2263. See also admission requirements.		
EMSP 2160	Clinical – Emergency Medical EMT Paramedic	0-3-1
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. Co-requisite EMSP 2458. See also admission requirements.		
EMSP 2164	Practicum-Emergency Medical Technology/Technician EMT Paramedic	0-10-1
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.		

EMSP 2206	Emergency Pharmacology	2-0-2
A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. Upon successful completion of this course, EMSP 1355, EMSP 1338, EMSP 1356 and EMSP 2262, 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. Prerequisites: Current CPR certification, National Registry certification, or Texas State certification as an Emergency Medical Technician (EMT). See also admission requirements.		
EMSP 2262	Clinical-Emergency Medical Technology/Technician EMT Paramedic	0-10-2
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, EMSP 1355, and EMSP 1338. Co-requisites: EMSP 2206, EMSP 2444 and EMSP 2434. See also admission requirements.		
EMSP 2263	Clinical-Emergency Medical Technology/Technician EMT Paramedic	0-10-2
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.		
EMSP 2300	Methods of Teaching Emergency Medical Service	2-2-3
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.		
EMSP 2305	EMS Operations	3-0-3
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.		
EMSP 2330	Special Populations	2-2-3
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, and EMSP 2143. See also admission requirements.		
EMSP 2434	Medical Emergencies	3-3-4
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, EMSP 1356, and EMSP 1338. Co-requisites: EMSP 2444, EMSP 2262, and EMSP 2206. See also admission requirements.		
EMSP 2444	Cardiology	3-3-4
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, EMSP 1356, and EMSP 1338. Co-requisites: EMSP 2434, EMSP 2262, and EMSP 2206. See also admission requirements.		
EMSP 2458	Critical Care Paramedic	3-3-4
Prepares healthcare personnel to function as members of a critical care transport team. Co-requisite: EMSP 2160. See also admission requirements.		

ENGL English

ENGL 1301	Composition I	3-0-3
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.		
ENGL 1302	Composition II	3-0-3
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.		

ENGL 2307 Creative Writing I 3-0-3
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.

ENGL 2308 Creative Writing II 3-0-3
This course provides practical experience in the techniques of imaginative writing. The focus of this course will be genre specific. This course is designed to guide the student in completing a detailed outline of a working novel. It will expose students to constructive criticism of their own work, and develop appropriate critiquing skills to be applied to the writings of others. The course will also focus on developing skills to set and meet timelines for the completion of a large project. Prerequisite: ENGL 1301.

ENGL 2311 Technical and Business Writing 3-0-3
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.

ENGL 2322 British Literature I 3-0-3
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.

ENGL 2323 British Literature II 3-0-3
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.

ENGL 2327 American Literature I 3-0-3
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.

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

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 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	Electric 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 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

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 *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.		

FIRT Fire Protection

FIRT 1301	Fundamentals of Fire Protection	3-0-3
Overview to fire protection, career opportunities in fire protection and related fields, philosophy and history of fire protection/service, fire loss analysis, organization and function of public and private fire protection services, fire departments as part of local governments, laws and regulations affecting the fire service, fire service nomenclature, specific fire protection functions, and basic fire chemistry and physics. Includes introduction to fire protection systems and introduction to fire strategy and tactics.		
FIRT 1303	Fire and Arson Investigation I	3-0-3
In-depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.		
FIRT 1307	Fire Prevention Codes & Inspections	3-0-3
Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures.		
FIRT 1309	Fire Administration I	3-0-3
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.		
FIRT 1315	Hazardous Materials I	3-0-3
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.		
FIRT 1319	Firefighter Health and Safety	3-0-3
Study of firefighter occupational safety and health in emergency and non-emergency situations.		
FIRT 1338	Fire Protection Systems	3-0-3
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.		
FIRT 1349	Fire Administration II	3-0-3
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. Not offered in Texas.		
FIRT 2309	Firefighting Strategies and Tactics I	3-0-3
Analysis of the nature of fire problems and selection of initial strategies and tactics including an in-depth study of efficient and effective use of manpower and equipment to mitigate the emergency.		

FREN French

FREN 1411 Beginning French I 4-2-4

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

FREN 1412 Beginning French II 4-2-4

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.

FREN 2311 Intermediate French I 3-0-3

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.

FREN 2312 Intermediate French II 3-0-3

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

GEOG 1301 Physical Geography 3-0-3

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.

GEOG 1302 Human Geography 3-0-3

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.

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

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

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

- 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.
- 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.

GRPH Graphics and Printing Technology *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 1374 Press Operations III 2-4-3**
Covers the press transport system, preparation of water and ink system and end of press run activities to include clean up of Hamada 234 press. Prerequisite: GRPH 2338.
- 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.
- GRPH 1474 Preventive Maintenance 3-3-4**
This course covers preventive maintenance of the offset printing press. A thorough study of the adjustments, preventive maintenance and simple repair on darkroom, composing room, press room, and bindery equipment.
- GRPH 2309 Digital Pre-press 2-4-3**
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.
- GRPH 2338 Press Operations II 2-4-3**
Maintenance and operation of large sheet-fed offset press systems and production of process-color jobs with hairline registration. Prerequisite: GRPH 1309.
- GRPH 2488 Internship - Graphics & Printing Equipment Operator, General Production 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.

HALT Agriculture *see also* AGCR, AGEQ, AGMG and AGAH

- HALT 1319 Landscape Construction 2-3-3**
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.
- HALT 1322 Landscape Design 2-3-3**
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.
- HALT 1324 Turf Grass Science and Management 2-3-3**
Coverage of various species of warm and cool season grasses including their uses, application, adaptability, environmental tolerances, anatomy, and physiological responses.
- HALT 1338 Irrigation Water Management and Conservation 2-3-3**
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.

HALT 1345 Golf/Sports Field/Park Management 2-3-3
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.

HALT 1470 Horticulture – Home Gardening 2-4-4
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.

HALT 2308 Greenhouse Management 2-3-3
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 see also CHEF, IFWA, PSTR, RSTO and TRVM

HAMG 1313 Front Office Procedures 3-0-3
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.

HAMG 1321 Introduction to the Hospitality Industry 3-0-3
An exploration of the elements and career opportunities within the multiple segments of the hospitality industry.

HAMG 1340 Hospitality Legal Issues 3-0-3
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.

HAMG 1342 Guest Room Management 3-1-3
A study of the working relationship among housekeeping, front office, and maintenance in the lodging industry.

HAMG 2301 Principles of Food and Beverage Operations 3-0-3
An overview of food and beverage management in various hospitality environments. Emphasizes cost controls from procurement to marketing and sales.

HAMG 2307 Hospitality Marketing and Sales 3-0-3
Identification of the core principles of marketing and sales in their impact on the hospitality industry.

HAMG 2332 Hospitality Financial Management 3-0-3
Methods and application of financial management within the hospitality industry. Primary emphasis on sales accountability, internal controls, and report analysis.

HAMG 2337 Hospitality Facilities Management 3-0-3
Identification of hospitality building systems and facilities; to include sustainability and risk management.

HAMG 2372 Hospitality Industry Training 3-0-3
This course provides a thorough look at training by addressing how to assess and analyze the training needs of new and established operations; design, implement, and evaluate training programs for non-management employees; manage the basic training functions; and train the trainer programs.

HAMG 2373 Final Project – Hospitality Management and Administration 3-0-3
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: Consent of the program coordinator.

HAMG 2388 Internship - Hospitality Administration and Management 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. Prerequisite: Consent of the program coordinator.

HART Heating, Air Conditioning and Refrigeration

HART 1341 Residential Air Conditioning 2-4-3
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.

HART 1401 Basic Electricity for HVAC 3-3-4
Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. Prerequisite: department consent required.

HART 1403 Air Conditioning Control Principles 3-3-4
A basic study of HVAC and refrigeration controls; troubleshooting of control HVAC 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.

HART 1407	Refrigeration Principles	3-3-4
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components and safety. Prerequisite: Department consent required.		
HART 1445	Gas and Electric Heating	3-3-4
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.		
HART 2341	Commercial Air Conditioning	2-4-3
A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less. Prerequisites: HART 1401 and 1407.		
HART 2342	Commercial Refrigeration	2-4-3
Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines. Prerequisites: HART 1401 and 1407.		
HART 2431	Advanced Electricity for HVAC	3-3-4
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.		
HART 2436	Air Conditioning Troubleshooting	3-3-4
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.		
HART 2438	Air Conditioning Installation and Startup	3-3-4
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.		
HART 2445	Residential Air Conditioning System Design	3-3-4
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.		
HART 2449	Heat Pumps	3-3-4
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.		
HART 2488	Internship - Heating, A/C, Ventilation and Refrigeration Maintenance Technology/ Technician (HAC, HACR)	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.		

HIND Hindi

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

HIST History

HIST 1301	United States History I	3-0-3
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.		

HIST	1302	United States History II	3-0-3
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.			
HIST	2301	Texas History	3-0-3
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.			
HIST	2311	Western Civilization I	3-0-3
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.			
HIST	2312	Western Civilization II	3-0-3
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.			
HIST	2381	African-American History	3-0-3
Historical, economic, social, and cultural development of African-Americans and African-American issues.			

HITT Office Technology see also MDCA, MRMT, POFI, POFM, and POFT

HITT	1301	Health Data Content and Structure	2-4-3
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.			
HITT	1303	Medical Terminology II	2-4-3
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.			
HITT	1305	Medical Terminology I	2-4-3
Study of medical terms through word origin and structure. Introduction to abbreviations and symbols, surgical and diagnostic procedures, and medical specialties.			
HITT	1341	Coding and Classification Systems	2-4-3
Fundamentals of coding rules, conventions, and guidelines using clinical classification systems.			
HITT	1349	Pharmacology	2-4-3
Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems. Prerequisite: HITT-1305 or MDCA-1309.			
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.			
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

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	1391	Special Topics in Histotechnology	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.			

HLAB 1401	Introduction to Histotechnology	3-3-4
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 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 *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.		
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 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 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

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

IFWA Hospitality Management 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 see also BCIS, CETT, COSC, CPMT, ELMT, INMT, 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.

INDO Indonesian

INDO 1411 Beginning Indonesian I 4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

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

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

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

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

INMT 1317 Industrial Automation 2-4-3
Applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of set-up, maintenance, and testing of the automated system. Prerequisites: None.

ITAL Italian

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 *see also BCIS, CETT, COSC, CPMT, ELMT, IMED, INMT, ITNW, ITSC, ITSE, ITSW, ITSY*

ITCC 1414 CCNA 1: Introduction to Networks 3-3-4

This course covers networking architecture, structure, and functions; introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for the curriculum.

ITCC 1440 CCNA 2: Routing and Switching Essentials 3-3-4

Describes the architecture, components, and basic operation of routers and explains the basic principles of routing and routing protocols. It also provides an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Prerequisite: ITCC 1414

ITCC 2412 CCNA 3: Scaling Networks 3-3-4

CCNA R&S: Scaling Networks (ScaN) covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches using advanced protocols. Prerequisite: ITCC 1440.

ITCC 2413 CCNA 4: Connecting Networks 3-3-4

WAN technologies and network services required by converged applications in a complex network; enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Prerequisite: ITCC 2412.

ITCC 2441 CCNA Security 3-3-4

Overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; and secure router design, installation, configuration, and maintenance; AAA and VPN implementation using routers and firewalls. Prerequisite: Departmental approval.

ITCC 2459 Advanced Voice Over Internet Protocol (VOIP) 3-3-4

Voice Over Internet Protocol (VOIP) architecture, components, and functionality. Includes VOIP signaling, call control, voice dial plans, configuring voice interfaces, dial peers, and quality of service (QoS) technologies. Prerequisite: Department approval required.

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

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 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 1353 Supporting Network Server Infrastructure 2-4-3

Installing, configuring, managing, and supporting a network infrastructure. Prerequisites: INTW1316 or concurrent enrollment.

ITNW 1358	Network+	2-4-3
Assists individuals in preparing for the Computing Technology Industry Association (CompTIA) Network+ certification exam and career as a network professional. Prerequisites: None		
ITNW 1451	Fundamentals of Wireless LANs	3-3-4
Designing, planning, implementing, operating, and troubleshooting wireless LANs (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies. Prerequisite: Department approval.		
ITNW 1454	Implementing and Supporting Servers	3-3-4
Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment. Prerequisites: ITNW1316 and ITNW1345.		
ITNW 2354	Internet/Intranet Server	2-4-3
Advanced concepts in the designing, installing, and administration of an Internet/Intranet server. Prerequisites: ITNW1316, ITNW1345, and ITNW1353.		
ITNW 2356	Designing a Network Directory Infrastructure	2-4-3
Design, implement, and support a network directory infrastructure in a multi-domain environment. Prerequisites: ITNW1345 or concurrent enrollment.		
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 see also BCIS, CETT, COSC, CPMT, ELMT, IMED, INMT, 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 1405	Intro. to PC Operating Systems	3-3-4
Introduction to personal computer operating systems including installation, configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Prerequisites: 6 semester hours in computer science courses.		
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 2425	Advanced Linux	3-3-4
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 2435	Application Software Problem Solving	3-3-4
Utilization of appropriate application software to solve advanced problems and generate customized solutions. Prerequisite: 30 semester hours of computer science course work		
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: 12 semester hours in computer science courses.		
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 see also BCIS, CETT, COSC, CPMT, ELMT, IMED, INMT, 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.

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. COSC 1315 is an acceptable academic substitution for this course. 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. Prerequisite: ITSC 1316.

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.

ITSE 2486 Internship - Computer Programming/Programmer, 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: 29 semester hours in computer science courses and consent of the Department Chair

ITSW Computer Information Technology and Systems see also BCIS, CETT, COSC, CPMT, ELMT, IMED, INMT, 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.

ITSY Computer Information Technology and Systems see also BCIS, CETT, COSC, CPMT, ELMT, IMED, INMT, 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: ITNW 1358 or ITCC 1414 or concurrent enrollment with either.

ITSY 2330 Intrusion Detection 2-4-3
Computer information systems security monitoring, intrusion detection, and crisis management. Includes alarm management, signature configuration, sensor configuration, and troubleshooting components. Emphasizes identifying, resolving, and documenting network crises and activating the response team. Prerequisite: ITSY 1342 and ITSC 1316.

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: ITNW 1358 or ITSC 1316 or concurrent enrollment with either.

ITSY 2441 Security Management Practices 3-3-4
In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan. Prerequisites: 6 semester hours of Information Technology Security coursework (ITSY).

ITSY 2442 Incident Response & Handling 3-3-4
In-depth coverage of incident response and incident handling, including identifying sources of attacks and security breaches; analyzing security logs; recovering the system to normal; performing postmortem analysis; and implementing and modifying security measures. Prerequisites: 6 semester hours of Information Technology Security coursework (ITSY).

ITSY 2445 Network Defense and Countermeasures 3-3-4
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 2459 Security Assessment and Auditing 3-3-4
Course Description: 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)

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

JAPN Japanese

JAPN 1411	Beginning Japanese I	4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.		
JAPN 1412	Beginning Japanese II	4-2-4
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: JAPN 1411 with a grade of "C" or above.		
JAPN 2311	Intermediate Japanese I	3-0-3
Review and application of skills in listening, comprehension, and speaking; introduction to advanced grammar patterns; and acquisition of additional Japanese characters. Prerequisite JAPN 1411 and 1412 with a grade of "C" or above.		
JAPN 2312	Intermediate Japanese II	3-0-3
This course continues reading in contemporary Japanese writings and drill on syntax as needed for reading, composition, and conversation. Prerequisite: JAPN 2311 with a grade of "C" or above.		

KINE Kinesiology

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 1122/1148	Kickboxing/Aerobics	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		
KINE 1125/1126	Physical Conditioning	0-3-1
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.		
KINE 1127/1128	Soccer	0-3-1
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.		
KINE 1132/1133	Swimming	0-3-1
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).		
KINE 1135/1136	Tennis	0-3-1
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.		
KINE 1137/1138	Volleyball	0-3-1
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.		
KINE 1139/1140	Water Fitness	0-3-1
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.		
KINE 1143/1144	Weight Training	0-3-1
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.		

KINE 1146/1147 Yoga	0-3-1
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.	
KINE 1149/1150 Jogging	0-3-1
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.	
KINE 1156/1157 Boot Camp	0-3-1
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.	
KINE 1158/1159 Eagle Fit	0-3-1
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.	
KINE 2100/2104 Zoomba Cardio	0-3-1
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.	
KINE 2105/2106 Krav Self-Defense	0-3-1
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.	
KINE 1301 Introduction to Physical Fitness & Sport	3-0-3
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, Associate of Applied Science, Associate of General Studies nor the Associate of Applied Science of Applied Technology degrees. Prerequisite: None.	
KINE 1304 Personal/Community Health I	3-0-3
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, Associate of Applied Science, Associate of General Studies nor the Associate of Applied Science of Applied Technology degrees. Prerequisite: None.	
KINE 1306 First Aid	3-0-3
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 Standard First Aid Responding to an Emergency as well as Adult/Child/Infant CPR, and CPR for the Professional certifications 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, Associate of Applied Science, Associate of General Studies nor the Associate of Applied Science of Applied Technology degrees. Prerequisite: None.	
KINE 1308 Sports Officiating I	3-0-3
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, Associate of Applied Science, Associate of General Studies nor the Associate of Applied Science of Applied Technology degrees. Prerequisite: None.	
KINE 1321 Coaching/Sports/Athletics I	3-0-3
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, Associate of Applied Science, Associate of General Studies nor the Associate of Applied Science of Applied Technology degrees. Prerequisite: None.	
KINE 1338 Concepts of Physical Fitness – Personal Trainer – NCSF Trainer Certification Course	3-0-3
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 NCSF-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, Associate of Applied Science, Associate of General Studies nor the Associate of Applied Science of Applied Technology degrees. Prerequisite: None.	

KORE Korean

KORE 1411 Beginning Korean I	4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.	

KORE 1412	Beginning Korean II	4-2-4
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.		
KORE 2311	Intermediate Korean I	3-0-3
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.		
KORE 2312	Intermediate Korean II	3-0-3
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

LGLA 1301	Legal Research and Writing	3-0-3
Presents the fundamentals of legal research and writing emphasizing the paralegal's role including resources and processes used in legal research and writing.		
LGLA 1307	Introduction to Law and the Legal Profession	3-0-3
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.		
LGLA 1317	Law Office Technology	3-0-3
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.		
LGLA 1345	Civil Litigation	3-0-3
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.		
LGLA 1351	Contracts	3-0-3
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.		
LGLA 1353	Wills, Trust and Probate Administration	3-0-3
Fundamental concepts of the law of wills, trusts, and probate administration emphasizing the paralegal's role.		
LGLA 1355	Family Law	3-0-3
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.		
LGLA 1372	National Security Law	3-0-3
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.		
LGLA 1391	Special Topics in Paralegal/Legal Assistance	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.		
LGLA 2303	Torts and Personal Injury Law	3-0-3
Fundamental concepts of tort and personal injury law including intentional torts, negligence, and strict liability with emphasis on the paralegal's role.		
LGLA 2311	Business Organizations	3-0-3
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.		
LGLA 2313	Criminal Law and Procedure	3-0-3
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.		
LGLA 2321	Military Law	3-0-3
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.		
LGLA 2333	Advanced Legal Document Preparation	3-0-3
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.		

LGLA 2335 Advanced Civil Litigation 3-0-3
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.

LGLA 2388 Internship- Paralegal/Legal Assistant 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. Prerequisite: Department approval required.

LMGT Logistics

LMGT 1319 Introduction to Business Logistics 3-0-3
A systems approach to managing activities associated with traffic, transportation, inventory management, warehousing, packaging, order processing, and materials handling.

MATH Mathematics

MATH 1314 College Algebra 3-0-3
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.

MATH 1316 Plane Trigonometry 3-0-3
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.

MATH 1324 Mathematics for Business and Social Sciences 3-0-3
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.

MATH 1325 Calculus for Business and Social Sciences 3-0-3
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 1314 or MATH 1324.

MATH 1332 Contemporary Mathematics (Quantitative Reasoning) 3-0-3
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. This course is for non-mathematics, non-science, and non-business students.

MATH 1342 Elementary Statistical Methods 3-0-3
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.

MATH 1350 Mathematics for Teachers I 3-0-3
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.

MATH 1351 Mathematics for Teachers II 3-0-3
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.

MATH 1414 College Algebra 4-0-4
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.

MATH 2318	Linear Algebra	3-0-3
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.		
MATH 2320	Differential Equations	3-0-3
First and second order differential equations and their applications. Laplace Transforms, Fourier Series, and their applications.		
MATH 2412	Precalculus Math	4-0-4
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.)		
MATH 2413	Calculus I	4-0-4
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.		
MATH 2414	Calculus II	4-0-4
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.		
MATH 2415	Calculus III	4-0-4
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.		

MBST Maintenance Technology see also CBFM, CNBT, CRPT, ELPT, PFPB and WDWK

MBST 1507	Masonry I	2-7-5
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.		

MDCA Office Technology see also HITT, MRMT, POFI, POFM and POFT

MDCA 1302	Human Disease/Pathophysiology	2-4-3
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.		
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

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	2-1-2
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	2-1-2
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 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.

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.

MRMT Office Technology see also HITT, MDCA, POFI, POFM, and POFT

MRMT 1307 Medical Transcription I 2-4-3
Fundamentals of medical transcription with hands-on experience in transcribing actual physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Utilizes technology compatible with industry standards. Designed to develop speed and accuracy. Prerequisite: HITT 1305 or concurrent enrollment. Keyboarding proficiency and written communication skills recommended.

MRMT 2333 Medical Transcription II 2-4-3
Transcription of medical reports with increasing speed and accuracy including history and physicals, consultations, discharge summaries, operative reports, and other medical reports. Prerequisite: MRMT 1307.

MRMT 2363 Clinical – Medical Transcription/Transcriptionist 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.

MSMG Military Science Management (ROTC)

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

MSMG 1201 Leadership and Personal Development

2-2-2

The 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 time management, physical fitness, and stress management relate to leadership, officership, and Army operations. Focus is placed on developing basic knowledge and comprehension of Army Leadership Dimensions while gaining a broad understanding of the ROTC program, its purpose in the Army, and its advantages for the student. One Two hour lecture and one Two hour Lab a week for one semester.

MSMG 1203 Introduction to Tactical Leadership

2-2-2

This course presents an overview of leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. Cadre role models and the building of stronger relationships among the cadets through common experience and practical interaction are critical aspects of this course. Prerequisite: None. One Two hour lecture and one Two hour Lab a week for one semester.

MSMG 1310 Foundations of Leadership

2-2-3

This course explores the dimensions of creative and innovative tactical leadership strategies and styles by studying historical case studies and engaging in interactive student exercises. Cadets practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of rank, uniform, customs, and courtesies. Leadership case studies provide tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the Contemporary Operating Environment (COE). Prerequisites: Leadership and Personal Development and Introduction to Tactical Leadership or approval of the Military Science department. One Two hour lecture and one Two hour Lab a week for one semester.

MSMG 1312 Foundations of Tactical Leadership

2-2-3

This course examines the challenges of leading teams in the complex contemporary operating environment (COE). The course highlights dimensions of cross-cultural challenges of leadership in a constantly changing world and applies these challenges to practical Army leadership tasks and situations. Cadets develop greater self-awareness as they practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. Prerequisites: Leadership and Personal Development, Introduction to Tactical Leadership and Foundations of Leadership or approval of the Military Science department. One Two hour lecture and one Two hour Lab a week for one semester.

MUAP Music Applied

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.

Course	Title	Prerequisite	Credit
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

MUEN 1132 Chamber (Small) Instrumental Ensembles 1-1-1
Smaller instrumental ensembles: wind, string, percussion, piano, or laboratory (jazz, rock, fusion, or contemporary).

MUEN 1142 Major (Large) Vocal Ensemble 1-1-1
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

MUEN 1152 Chamber (Small) Vocal Ensembles 1-1-1
Vocal ensemble, glee club, madrigal, or small swing choir.

MUSI Music

MUSI 1116 Sight Singing and Ear Training I 1-1-1
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.

MUSI 1117 Sight Singing and Ear Training II 1-1-1
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.

MUSI 1181 Piano Class I 1-1-1
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.

MUSI 1183 Voice Class I 1-1-1
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.

MUSI 1188 Percussion Class I 1-1-1
Class instruction in the fundamental techniques of playing and teaching percussion instruments. Prerequisite: None.

MUSI 1192 Guitar Class I 1-1-1
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.

MUSI 1301 Fundamentals of Music I 3-0-3
An introduction to music including note reading, rhythm, intervals, triads, scales, and key signatures. Open to all students. Prerequisite: None.

MUSI 1304 Foundations of Music 3-0-3
A study of the basic fundamentals of music with an introduction to melodic, rhythmic, and harmonic instruments. Emphasis on participation in singing and reading music. For students in the field of education and the general college student. This course is not for music majors. Prerequisite: None.

MUSI 1306 Music Appreciation 3-0-3
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.

MUSI 1307 Music Literature 3-0-3
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.

MUSI 1311 Music Theory I 3-0-3
A continuation of Music Fundamentals. Harmonic progressions, seventh chords, cadences, pentatonic, and modal scales with an introduction to four-part writing. Prerequisite: MUSI 1301 or placement exam by the instructor. This course should be taken concurrently with MUSI 1116. This course is required for music majors.

MUSI 1312 Music Theory II 3-0-3
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.

MUSI 2311 Music Theory III 3-0-3
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.

MUSI 2312 Music Theory IV 3-0-3
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.

MUSI 2389 Academic Cooperative 2-4-3
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.

PASH Pashtu

PASH 1411 Beginning Pashtu I 4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

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

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

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

PERS Persian-Iranian/Afghan

PERS 1411 Beginning Persian-Iranian/Afghan I 4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

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

PERS 2311 Intermediate Persian-Iranian/Afghan I 3-0-3
This course includes grammar review, composition, and reading with conversation based on material read. Prerequisite: PERS 1411 and 1412 with a grade of "C" or above.

PERS 2312 Intermediate Persian- Iranian/Afghan II 3-0-3
This course continues reading and drill on syntax as needed for reading, composition, and conversation. Prerequisite: PERS 2311 with a grade of "C" or above.

PFPB Maintenance Technology 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

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.

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.

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.

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

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.

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.

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.

PLAB Phlebotomy

PLAB 1323 Phlebotomy 3-3-3
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 1360 Clinical: Phlebotomy/Phlebotomist 3-0-3
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.

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.

POFI Office Technology see also HITT, MDCA, MRMT, 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 see also HITT, MDCA, MRMT. 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	2333	Medical Document Production	2-4-3
Create, format and produce publishable documents. Prerequisites: MRMT 1307 and MRMT 2333.			
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 see also HITT, MDCA, MRMT. 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.			
POFT	1309	Administrative Office Procedures I	2-4-3
Study of current office procedures, duties and responsibilities applicable to an office environment.			
POFT	1319	Records and Information Management I	2-4-3
Introduction to basic records and information management systems including manual and electronic filing. Keyboarding skills or other computer literacy course recommended.			
POFT	1325	Business Math Using Technology	2-4-3
Skills development in business math problem solving using technology.			
POFT	1329	Beginning Keyboarding	2-4-3
Skill development in keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.			
POFT	1349	Administrative Office Procedures II	2-4-3
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.			
POFT	2312	Business Correspondence and Communication	2-4-3
Development of writing and presentation skills to produce effective business communications. Prerequisites: POFT 1301 or ENGL 1301.			
POFT	2333	Advanced Keyboarding	2-4-3
A continuation of keyboarding skills in advanced document formatting emphasizing speed, accuracy, and decision-making. Prerequisite: POFT 1329 and POFI 2301.			

POFT 2386 Internship - Administrative Assistant and Secretarial Science, General 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.

PORT Portuguese

PORT 1411 Beginning Portuguese I 4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

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

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

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

PSTR Hospitality Management see also CHEF, HAMG, IFWA, RSTO and TRVM

PSTR 1301 Fundamentals of Baking 2-4-3
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.

PSTR 1302 Cake Baking and Production 2-4-3
Principles and techniques of cake production. Emphasizes ingredient identification, functions, mixing, and baking. Prerequisite: PSTR 1301.

PSTR 1305 Breads and Rolls 2-4-3
Concentration on fundamentals of chemically and yeast raised breads and rolls. Instruction on commercial preparation of a wide variety of products.

PSTR 1306 Cake Decorating I 2-4-3
Introduction to skills, concepts and techniques of cake decorating.

PSTR 2307 Cake Decorating II 1-5-3
A course in decoration of specialized and seasonal products. Prerequisite: PSTR 1306.

PSTR 2331 Advanced Pastry Shop 2-4-3
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.

PSTR 2350 Wedding Cakes 1-5-3
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

PSYC 1300 Learning Framework 3-0-3
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.

PSYC 2301 General Psychology 3-0-3
Survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes.

PSYC 2308 Child Psychology 3-0-3
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.

PSYC 2314	Life Span Growth and Development	3-0-3
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.		
PSYC 2315	Psychology of Adjustment	3-0-3
Study of the processes involved in adjustment of individuals to their personal and social environments.		
PSYC 2316	Psychology of Personality	3-0-3
The study of various approaches to determinants, development, and assessment of personality.		

PSYT Mental Health Services see also CMSW, DAAC and SCWK

PSYT 1309	Health Psychology	2-2-3
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.		
PSYT 1429	Interviewing and Communication Skills	3-3-4
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.		
PSYT 2321	Crisis Intervention	2-2-3
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.		
PSYT 2331	Abnormal Psychology	2-2-3
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.		
PSYT 2345	Principles of Behavior Management and Modification	2-2-3
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.		

PUNJ Punjabi

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

RBTC Robotics

RBTC 1343	Robotics	3-0-3
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.		
RBTC 1345	Robot Interfacing	2-4-3
A study of the basic principles of robot controllers, controller input/output, memory, and interfacing with computer integrated manufacturing. Prerequisite: RBTC 1343.		
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 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. Prerequisite: RBTC 1345.

RELE Real Estate

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 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.

RNSG 1229 Integrated Nursing Skills II 1-2-2
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.

RNSG 1262	Clinical-Nursing I (RN Training)	0-9-2
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.		
RNSG 1331	Principles of Clinical Decision-Making	2-3-3
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.		
RNSG 1347	Concepts of Clinical Decision-Making	2-3-3
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 of 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 of 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.		
RNSG 1363	Clinical -Nursing II	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. 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.		
RNSG 1412	Nursing Care of Childbearing and Childrearing Family	3-3-4
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. Articulation Option Pre-requisite: RNSG 1331, RNSG 2213, RNSG 1363, PSYC 2314, RNSG 1347, RNSG 2362.		
RNSG 1413	Foundations for Nursing Practice	2-7-4
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.		
RNSG 2213	Mental Health Nursing	1-3-2
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.		
RNSG 2221	Professional Nursing Leadership and Management	1-3-2
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.		
RNSG 2331	Advanced Concepts in Adult Health	2-3-3
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.		

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 see also CHEF, HAMG, IFWA, PSTR and TRVM

RSTO 1204 Dining Room Service 1-3-2
Introduces the principles, concepts, and systems of professional table service. Topics include dining room organization, scheduling, and management of food service personnel. American Hotel and Lodging Association (AH&LA) certification course. Student must attain a score of 70% or higher on certification test to receive National Certification.

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.

RSTO 2307 Catering 2-2-3
Principles, techniques, and applications for both on-premises, off-premises, and group marketing of catering operations including food preparation, holding, and transporting techniques.

RSTO 2405 Management of Food Production and Service 2-4-4
A study of quantity cookery and management problems pertaining to commercial and institutional food service, merchandising and variety in menu planning, and customer food preferences. Includes laboratory experiences in quantity food preparation and service.

RUSS Russian

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 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

- 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.
- 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.
- 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.
- 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

- SOCW 2361 Introduction to Social Work 3-0-3**
This course explores the development of the philosophy and practice of social work in the United States, survey of the fields and techniques of social work.
- SOCW 2362 Social Welfare as a Social Institution 3-0-3**
Introduction to the study of modern social work, the underlying philosophy and ethics of social work, and the major divisions and types of social work together with their methods and objectives are explored.

SPAN Spanish

- 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

- SPCH 1144 Forensic Activities I 1-0-1**
Study and practice of the nine individual speaking events that are commonly a part of forensic competition. Stresses research of subject matter, performance, and professionalism as a competitive speaker. May include some travel to area forensic tournaments as a member of CTC's speech team.
- SPCH 1145 Forensic Activities II 1-0-1**
Study and practice of the nine individual speaking events that are commonly a part of forensic competition. Stresses research of subject matter, performance, and professionalism as a competitive speaker. May include some travel to area forensic tournaments as a member of CTC's speech team.
- 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 2144	Forensic Activities III	1-0-1
Study and practices of the nine individual speaking events that are commonly a part of forensic competition. Stresses advanced research of subject matter, performance, and professionalism as a competitive speaker. May include some travel to area forensic tournaments as a member of CTC's speech team.		
SPCH 2145	Forensic Activities IV	1-0-1
Study and practices of the nine individual speaking events that are commonly a part of forensic competition. Stresses advanced research of subject matter, performance, and professionalism as a competitive speaker. May include some travel to area forensic tournaments as a member of CTC's speech team.		
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.		

TECA Child Development

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 is aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; 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 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 is aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; 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 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. Focus on local and national standards and legal implications of relevant policies and regulations; course content is aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; 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

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 *see also CHEF, HAMG, IFWA, PSTR and RSTO*

TRVM 1300	Introduction to Travel and Tourism	3-0-3
An overview of the travel and tourism industry. Emphasis on travel careers and the impact of tourism on society.		
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.		

TURK Turkish

TURK 1411	Beginning Turkish I	4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.		
TURK 1412	Beginning Turkish II	4-2-4
Elementary grammar is completed. Pronunciation drill and reading-based conversation are continued. Common conversational phrases are stressed. Prerequisite: TURK 1411 with a grade of "C" or above.		

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

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

URDU Urdu

URDU 1411 Beginning Urdu I 4-2-4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

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

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

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

VNSG Nursing - LVN

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 1-1-2
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 various forms of drugs. Instruction includes various systems of measurement. Prerequisites: BIOL 2401, HPRS 2300. Co-requisites: VNSG 2331.

VNSG 1230 Maternal-Neonatal Nursing 2-0-2
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 Co-requisites: VNSG 1432, 1234, 2360. Spring Prerequisites: BIOL 2401, HPRS 2300, VNSG 1126, 1323, 1222, 1227, 2331, 1160. Spring Co-requisites: VNSG 1429, 1234, 1360.

VNSG 1234 Pediatrics 2-1-2
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.

VNSG 1301 Mental Health & Mental Illness 3-0-3
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.

VNSG 1323	Basic Nursing Skills	1-6-3
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.		
VNSG 1360	Clinical - Practical Nurse II	0-17-3
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.		
VNSG 1429	Medical - Surgical Nursing I	3-2-4
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.		
VNSG 1432	Medical - Surgical Nursing II	3-2-4
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.		
VNSG 1560	Clinical - Practical Nurse II	0-25-5
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.		
VNSG 2331	Advanced Nursing Skills	1-6-3
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.		
VNSG 2360	Clinical – Practical Nurse III	0-17-3
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. 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.		
VNSG 2560	Clinical – Practical Nurse III	0-19-5
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 Maintenance Technology

WDWK 1413	Cabinet Making I	2-5-4
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 .		
WDWK 2351	Cabinet Making II	2-4-3
Advanced skills in machine woodworking and hand craftsmanship. Emphasizes advanced design and door and drawer construction, laminate installation. Prerequisite: WDWK 1413.		

WLDG Welding

WLDG 1312	Introduction to Flux Cored Arc Welding	2-4-3
An overview of terminology, safety procedures, and equipment set-up. Practice in performing various joints using Flux Cored Arc Welding (FCAW) equipment.		
WLDG 1313	Introduction to Blueprint Reading for Welders	2-4-3
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.		
WLDG 1317	Introduction to Layout and Fabrication	2-4-3
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.		
WLDG 1323	Welding Safety, Tools, and Equipment	2-4-3
An introduction to welding careers, equipment and safety practices, including OSHA standards for industry.		

WLDG 1425	Introduction to Oxy-Fuel Welding and Cutting	3-3-4
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.		
WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)	3-3-4
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.		
WLDG 1430	Introduction to Gas Metal Arc (GMAW) Welding	3-3-4
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.		
WLDG 1434	Introduction to Gas Tungsten Arc (GTAW) Welding	3-3-4
Principles of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs. Prerequisites: WLDG 1323.		
WLDG 1435	Introduction to Pipe Welding	3-3-4
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.		
WLDG 1457	Intermediate Shielded Metal Arc Welding (SMAW)	3-3-4
A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions. Prerequisite: WLDG 1428.		
WLDG 2413	Intermediate Welding Using Multiple Processes	2-7-4
Instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW) or any other approved welding process.		
WLDG 2435	Advanced Layout and Fabrication	3-3-4
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.		
WLDG 2443	Advanced Shielded Metal Arc Welding (SMAW)	2-7-4
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.		
WLDG 2447	Advanced Gas Metal Arc Welding (GMAW)	3-3-4
Advanced topics in gas metal arc welding (GMAW). Includes welding in various positions. Prerequisite: WLDG 1430.		
WLDG 2451	Advanced Gas Tungsten Welding (GTAW)	3-3-4
Advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite: WLDG 1434.		
WLDG 2453	Advanced Pipe Welding	2-7-4
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.		
WLDG 2488	Internship - Welder/Welding Technology	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: Department approval required.		